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ABSTRACT

Social learning, in particular, modeling and imitation learning, is discussed in the five sections of this paper. Section One deals with the characteristics of the model (human versus cartoon, television, film, etc.) and characteristics of the situation (reward versus punishment, etc.). Section Two, which is relatively extensive, covers aspects of aggression. Section Three discusses the learning of sex-role behaviors, particularly those transmitted through incidental learning. The learning of values, attitudes, and related variables are covered in Section Four. Section Five deals with the use of imitation learning to teach particular concepts or skills. Each section of the paper has a brief introduction, which discusses some of the concerns and issues. Immediately following this discussion are citations from "Research in Education," including an abstract or summary of each study, and from "Current Index to Journals in Education." Journal articles cited may occasionally have annotations or abstracts also. Within each topic, references have been arranged alphabetically. (Author/DB)

Modeling and Imitation Learning in Young Children
An Abstract Bibliography

Compiled by

Susan B. Thomas

ERIC Clearinghouse on
Early Childhood Education
805 W. Pennsylvania Avenue
Urbana, Illinois 61801

Available from the

College of Education Curriculum Laboratory
University of Illinois
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Urbana, Illinois 61801

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MODELING AND IMITATION LEARNING IN YOUNG CHILDREN

Concerns about social learning are prevalent at all levels of education. Children learn many things from their environments; often this learning is unplanned or incidental. Much of this incidental learning is facilitated by models, i.e., an adult or a child who serves as an example of a particular kind of behavior.

Behavior which seems to be particularly susceptible to learning through modeling includes aggression, sex-role behavior, and values and attitudes. Imitation learning also is consciously used to teach certain concepts. For example, young children who have not acquired the Piagetian concept of conservation are sometimes taught by systematic exposure to conserving peers or models. Problem solving skills and information processing strategies may also be taught in this manner.

Social learning, especially modeling and imitation learning, is indeed a very broad topic. For this reason, this paper will be limited in the following manner: There will be five sections dealing with several aspects of the problem.

Section One will deal with the characteristics of the model (human versus cartoon, television, film, etc.) and characteristics of the situation (reward versus punishment, etc.).

Section Two will cover aspects of aggression. This section will be relatively extensive, since aggressive behavior is an important concern, especially in the classroom.

Section Three will discuss the learning of sex-role behaviors, particularly those transmitted through incidental learning.

The learning of values, attitudes, and related variables will be covered in Section Four.

Section Five will deal with the use of imitation learning to teach particular concepts or skills.

The topics of language and linguistics will not be dealt with in this paper. The teacher of language usually makes use of modeling and imitation learning as a teaching technique. However, this topic is so broad as to require separate treatment.

Each section will have a brief introduction, discussing some of the concerns and issues. Immediately following this discussion will be citations from Research in Education, including an abstract or summary of each study, and from Current Index to Journal in Education. Journal articles cited may occasionally also have annotations or abstracts. Within each topic, references have been arranged alphabetically.

TABLE OF CONTENTS

CHARACTERISTICS OF THE MODEL AND SITUATION

Section One

CHARACTERISTICS OF THE MODEL AND SITUATION

Two of the factors which determine whether or not a child will imitate a particular response are: characteristics of the model and characteristics of the situation.

Characteristics of the Model

Research studies have used a variety of models with varying degrees of success. Much research supports the contention that children will more often imitate a live model (either peer or adult) than a cartoon or other nonhuman model. In addition, children are more influenced by examples of behavior than they are by "preaching" about that behavior.

Bandura and Mischel (1965) found that live models were more influential in inducing delay-of-reward behavior in children than were symbolic models when the results were measured over time. Dubanoski and Parton (1971) found similar results on other types of imitative behavior.

Another characteristic of the model which appears to be important in imitation learning is the personality of the model. For example, nurturant models are more frequently imitated than nonnurturant models (e.g., Mussen & Parker, 1965; Rutherford & Mussen, 1965; Stein & Wright, 1964; Yarrow & Scott, 1972). A teacher who is warm and accepting provides a good model for young children. Because of her warmth, the children like her and want to copy her actions, a sincere form of flattery. Since actions really do speak louder than words, it is important for the teacher to exemplify her concerns to the children rather than to talk about them. For example, if a teacher

stressed the importance of wearing a warm hat and mittens for recess, yet did neither herself, she would be indicating to the children that she really did not feel these things were important.

Many times one hears of the need for male preschool and primary school teachers so boys will have access to a role model in school. Similarly, requests are made for teachers from minority groups so that minority group children will be able to identify with the teacher. Are these concerns valid? Does the race and/or sex of the model make any difference in the imitation of behavior? Results of research are conflicting, and the studies in the area are often compounded with additional variables, e.g., reinforcement. Thelen (1971) studied the effects of race of subjects and model on learning. He found that white children imitated a black model more than a white model. However, the results were compounded depending on whether or not the model was praised. Portuges and Feshbach (1972) found that white children, particularly girls, were more likely to imitate a teacher's behavior, particularly if the teacher positively reinforced the imitated behavior.

It thus appears that while conclusive results are not yet available, a warm teacher, particularly one who is rewarding, appears to be influential as a model regardless of race or sex.

The medium of television also seems to influence those who watch it. Most studies dealing with television are concerned with the learning of aggressive responses. Section Two of this bibliography will deal with aggressive behavior learned through imitation, and will consider in greater depth the effects of television. A few studies will be included in the current section.

Liebert and Baron (1972) hypothesized that televised violence would increase the willingness of young children to hurt one another. Results supported their hypothesis. Children who had viewed the aggressive program engaged in more aggressive play.

Wolf and Cheyne (1972) compared effects of a live human model, a televised model, and a verbal model in eliciting imitative behavior. Results indicated that the live human and televised models were more effective than the verbal model (preaching or telling) and that the effects of the deviant models (models breaking a rule) were more stable over time.

From these two studies, it appears that television is potent as a model. Further discussion of the effects of television will be included in Section Two.

Characteristics of the Situation

The second basic characteristic we will consider in Section One is reinforcement. There appear to be two areas of concern here: vicarious versus direct reinforcement and positive versus negative reward.

The question of vicarious versus direct reward was studied by Liebert and Fernandez (1970). Results of their study indicated that direct reward was important in imitation learning, and that vicarious reward may serve primarily to bring attention to the relevant modeling cues. In another study, Fernandez and Liebert (1970) suggest that vicarious reward may be differentially effective developmentally.

Vicarious reward appears to be more effective with younger children. For example, Barnwell and Sechrest (1965) found that first grade children who observed a model being reinforced responded as if they had been rein-

forced directly. However, third grade children chose the task the model had chosen regardless of reinforcement. It was suggested that third grade children have been using some type of verbal evaluative dimension in addition to the model.

The role of vicarious reinforcement as it relates to television will be discussed in Section Two.

Positive versus negative reward has also been studied as related to imitation learning. However, fewer studies have been done, as vicarious reinforcement seems to be of greater concern. History of reinforcement as well as the expectancies of the subject are also important. One study in the area was done by Cheyne (1971) who used positive, negative, and neutral feedback. He suggests that a major finding of the study is the apparent "halo effect" of positive outcomes. Both negative and neutral modeled items were repeated more frequently if the model received at least some positive feedback.

These study results have implications for the teacher. Children are reinforced in behavior by watching the rewards or punishment given to another child; and the positive rewards appear to be more effective than negative or no reward in establishing certain behaviors.

1. Allen, Mary Kathleen; Liebert, Robert M. Effects of Live and Symbolic Deviant-Modeling Cues on Adoption of a Previously Learned Standard. Journal of Personality and Social Psychology, v11 n3, pp253-260, Mar 1969.

2. Baer, D. M.; Peterson, R. F.; Sherman, J. A. The Development of Imitation by Reinforcing Behavioral Similarity to a Model. Journal of Experimental Analysis of Behavior, v10, pp405-416, 1967.

3. Baer, D. M.; Sherman, J. A. Reinforcement Control of Generalized Imitation in Young Children. Journal of Experimental Child Psychology, v1, pp37-49, 1964.

4. Bandura, A.; Grusec, J. E.; Menlove, F. L. Observational Learning as a Function of Symbolization and Incentive Set. Child Development, v37, pp499-506, 1966.

This study investigated the effects of symbolization on delayed reproduction of modeling stimuli in a test of the contiguity-mediational theory of observational learning. During exposure to the behavior of a film-mediated model, one group of children engaged in concurrent verbalization, a second group observed passively, while a third group engaged in competing symbolization. Half o the children in each of the treatment conditions observed the model's behavior under a positive incentive set; the remaining Ss were provided no incentive to learn the model's responses. Ss who generated verbal equivalents of the modeling stimuli during exposure subsequently reproduced more matching responses than the passive viewers, who, in turn showed a higher level of acquisition than children in the competing symbolization treatment. Observational learning, however, was not influenced by incentive set.

5. Bandura, A.; Kupers, C. Transmission of Patterns of Self-Reinforcement through Modeling. Journal of Abnormal and Social Psychology, v69, pp1-7, 1964.

6. Bandura, A.; Mischel, W. Modification of Self-Imposed Delay of Reward through Exposure to Live and Symbolic Models. Journal of Personality and Social Psychology, v2, pp698-705, 1965.

In a comparative test of the relative efficiency of live and symbolic models for modifying delay-of-reward behavior, groups of children with marked preferences for either immediate but less valued rewards, or more valuable delay reinforcers, were assigned randomly to one of three experimental conditions. One group observed live models who exhibited delay behavior that was counter to the children's pattern; a second group was presented essentially the same modeling cues except in symbolic verbal form; while a third group had no exposure to any models. Changes in Ss' delay-of-reward behavior were measured immediately following exposure to the modeling procedures, and reassessed approximately one month later within a different stimulus situation. Both live and symbolic models produced substantial modifications in delay-of-reward behavior within the immediate social influence setting, but the changes induced in high-delay children through exposure to symbolic models were less stable over time.

7. Bandura, A.; Ross, D.; Ross, S. A. Vicarious Reinforcement and Imitative Learning. Journal of Abnormal and Social Psychology, v67, pp601-607, 1963.

8. Bandura, A.; Whalen, C. K. The Influence of Antecedent Reinforcement and Divergent Modeling Cues on Patterns of Self-Reward. Journal of Personality and Social Psychology, v3, pp373-382, 1966.

9. Barnwell, A.; Sechrest, L. Vicarious Reinforcement in Children at Two Age Levels. Journal of Educational Psychology, v56 n2, pp100-106, 1965.

The paradigm for vicarious experiences calls for a model who performs and is reinforced, add an O who simply watches the procedure. A task-choice situation was presented to pairs of children from the first and third grades. Experimental manipulation consisted of administering to the model either verbal reinforcement, negative verbal reinforcement, or no reinforcement. At the first grade level, Os responded to vicarious reinforcement as if they themselves had been directly reinforced. However, third grade Ss did not respond differentially to vicarious reward and punishment. Instead, third grade Os tended to choose the task the model had done, whether reinforcement received by the model was positive nor negative. It is suggested that verbal reinforcement may activate an evaluative dimension to which third grade Ss were reacting.

10. Breyer, N. L.; May, J. G. Effect of Sex and Race of the Observer and Model on Imitation Learning. Psychological Reports, v27, pp639-646, 1970.

The effects of sex and race of observer and model characteristics, verbal, motor, and total number of imitative responses, were investigated with a repeated measures design which also assessed the effects of idiosyncratic model effects within each model characteristic. Analysis of the verbal imitation data indicated that Negro females imitated more than Negro males while white males imitated more than white females. Analysis of the motor and total imitation resulted in similar significant effects. In both cases, a significant race of S effect as well as an interaction effect between race of S, sex of M, and exposure trials was reported. In addition, an analysis of the motor imitation data yielded a significant race of S by team of model effect and a four way interaction between sex of S, sex and race of M, and exposure trails.

11. Cheyne, J. A. Effects of Imitation of Different Reinforcement Combinations to a Model. Journal of Experimental Child Psychology, v12 n2, pp258-269, Oct 1971.

A study was conducted to determine the effects of different feedback combinations to a model on the tendency of an observer to match the behavior of a peer model. The different combinations used were right-wrong, right-blank, and blank-wrong. Consequences were found to influence both performance and recall of modeled behavior. In comparison with neutral outcomes, positive outcomes to the model were found to enhance the subsequent performance by the observer whereas negative outcomes to the model were found to suppress observer's performance of the model's behavior. On the other hand, both positive and negative outcomes facilitated the recall of the model's verbal behavior. The other major finding concerned the apparent "halo effect" of positive outcomes. Both negative and neutral modeled items were repeated more frequently if the model received at least some positive outcomes.

12. Cohen, Stewart. Peers As Modeling and Normative Influences in the Development of Aggression. Psychological Reports, v28 n3, pp995-998, Jun 1971.

13. Davids, A. Effects of Aggressive and Nonagressive Male and Female Models on the Behavior of Emotionally Disturbed Boys. Child Development, v43, pp1443-1448, 1972.

Institutionalized disturbed boys observed male and female adults playing with toys in either an aggressive or nonaggressive manner. Comparing the boys' play activities before and after viewing these models showed that the male aggressive model had greater influence on increasing the boys' aggressive behavior, while the female nonaggressive model had greater influence on increasing the nonaggressive behavior. The aggressive male model tended to have the effect of decreasing the boys' verbalizations, both aggressive and nonaggressive. The most significant changes in the verbal area, however, were increased nonaggressive verbalization after viewing the nonaggressive female model and decreased nonaggressive verbalizations after viewing the female aggressive model.

14. Dubanoski, Richard A.; Parton, David A. Effect of the Presence of a Human Model on Imitative Behavior in Children. Developmental Psychology, v4 n3, pp463-468, May 1971.

Two experiments were conducted to investigate the effects of the presence of the model on imitative behavior in children. In two main conditions, subjects either watched events performed by a model (model condition) or performed in the absence of a model (model absent condition). Although more imitation occurred in the model condition than in the model absent condition, considerable imitation was exhibited in the model absent condition. These results indicate that the presence of the model facilitates the performance of imitation and that in an experimental setting much imitation can be accounted for by mere observation of those events which define the imitative responses.

15. Epstein, Ralph; Price, Frank. Effects of Reinforcement Base-Line-Input Discrepancy upon Imitation in Children. Developmental Psychology, v2 n1, pp12-21, Jan 1970.

The effects of contingent reinforcement of imitative responses was hypothesized as complexly related to the child's reinforcement history. Subsequent to the induction of favorable and unfavorable reinforcement histories, subjects received reinforcement rates designed to create varying degrees of positive (over-reward) and negative (under-reward) discrepancies from the reinforcement baseline. The results indicated that a favorable reinforcement history produced optimal conditioning with consistently high inputs, whereas an unfavorable history was related to optimal conditioning under conditions of moderately positive discrepancy. Disconfirmation of a high reinforcement standard (negative discrepancy) produced strong resistence to extinction in imitative response. Thus, the conditionability of imitative responses is related to an interaction between current reinforcement inputs and the child's reinforcement history.

16. Fernandez, L. E.; Liebert, R. M. Vicarious Reward and Task Complexity as Determinants of Imitative Learning: A Modified Replication. Psychological Reports, v26, pp473-474, 1970.

As in an earlier study with older children, a brief exposure to a model was shown to produce appreciable learning by preschool Ss on a substantive educational task. Although vicarious reward again favorably influenced imitative learning under high-complexity conditions, the borderline reliability of this effect with younger Ss suggests that the effects of vicarious reward should be studied developmentally.

17. Friedman, Philip. Imitation of a Teacher's Verbal Behavior as a Function of Teacher and Peer Reinforcement. February 1971, 22p. ED 050 010

Elementary School Students; Elementary School Teachers; Grade 1; *Imitation; *Peer Acceptance; *Positive Reinforcement; *Student Behavior; *Student Reaction; *Teacher Behavior; Verbal Communication

The extent to which a teacher served as a model for the verbal style of his students was examined with the use of a modified form of the Observation Schedule and Record 4V (OScAR). Four students from each of 24 first grade classes were separated into groups on the basis of frequency of teacher and peer reinforcement. Verbal characteristics of these students were scored using six scales of imitative behavior developed from the OScAR protocols. The data were analyzed using a 2x2 factorial design (teacher reward x pupil reward). Students observing high rewarding teachers imitated significantly more than those observing low rewarding teachers on 4 of 6 verbal categories. In three of the analyses differences between frequently and infrequently peer-reinforced students were located, and for three of the analyses there were also reliable teacher reward x pupil reward interactions. The potential of the OScAR for measuring student behavior and constructs such as limitation was demonstrated.

18. Friedman, Philip; Bowers, Norman D. Pupil Imitation of a Rewarding Teacher's Verbal Behavior. 1969, 13p. ED 038 185

Age Differences; Classroom Observation Techniques; Grade 1; *Imitation; Kindergarten; *Peer Relationship; Preschool Children; Reinforcement; Sex Differences; *Student Behavior; Teacher Behavior; *Verbal Communication

Thirty classrooms (10 preschool, 10 kindergarten, and 10 first grade) in New York and Chicago were observed in this study of teacher and student verbal behavior. The study investigated the extent to which pupils imitate a rewarding teacher's verbal style when talking among themselves. From the 10 classes at each grade level, the six that showed the highest frequency of teacher reinforcing verbal behavior were chosen for further observation and designated the "rewarding teacher" group. The final sample of 72 students was derived by randomly selecting four students (two boys; two girls) from each of the classes. Pupil verbal statements were scored using five scales of imitative behavior developed from the Observation Schedule and Record 4V (OScAR) protocols. The data were analyzed using a 2x3 factorial design (sex x grade levels). The records of teacher and pupil verbal characteristics were made near the end of the school year by trained observers who had spent adaptive time in the classrooms before collecting any data. The major findings were that girls imitated more than boys and that imitation increased

with grade level. It is felt that these findings are important for measuring constructs such as imitation and for measuring pupil as well as teacher behavior.

19. Friedman, Philip; Bowers, Norman D. Student Imitation of a Rewarding Teacher's Verbal Style as a Function of Sex and Grade Level. Journal of Educational Psychology, v62 n6, pp487-491, Dec 1971.

Patterns of teacher and student verbal behavior within a framework of reinforcement theory were analyzed through the use of a modified form of the Observation Schedule and Record 4V (OScAR). The study examined the extent to which the rewarding teacher's classroom discourse served as a model for the verbal style of a student among his peers. Data were initially collected from 30 groups; 10 preschool, 10 kindergarten, and 10 first grade classrooms. From each of these levels, six classes showing the highest frequency of teacher reinforcing behavior were selected and designated as the "rewarding teacher" group. Verbal statements of four pupils (two boys; two girls) from each of these classes were scored using five scales of imitative behavior developed from the OScAR protocols. The data were analyzed using a 2x3 factorial design (sex x grade levels). Female pupils imitated significantly more than males on four of the five verbal categories. In three of the analyses grade level differences were located, and for only one analysis was there a significant interaction.

20. Grusec, J.; Mischel, W. Model's Characteristics as Determinants of Social Learning. Journal of Personality and Social Psychology, v4, pp211-215, Aug 1966.

21. Hapkiewicz, Walter G.; Roden, Aubrey H. The Effect of Aggressive Cartoons on Children's Interpersonal Play. Child Development, v42 n5, pp1583-1585, Nov 1971.

60 second grade children were randomly assigned to same sex pairs, and each pair was randomly assigned to 1 of 3 treatment groups: aggressive cartoon, nonaggressive cartoon, and no cartoon. Results indicated that there was no differences among the groups on measures of interpersonal aggression, although boys exhibited significantly more aggression than girls. Although boys also demonstrated more prosocial behavior (sharing) than girls, boys who viewed the aggressive cartoon performed this response at a reduced rate.

22. Hanlon, Camille C. The Effects of Social Isolation and Characteristics of the Model on Accent Imitation in Fourth-Grade Children. Journal of Experimental Child Psychology, v11 n2, pp322-336, Apr 1971.

This study investigated some possible determinants of sociolinguistic change through the use of an experimental analog. General American speakers were asked to learn the role of a British character is a puppet play under varying motivational conditions. In the absence of any instruction to do so, children who were exposed to a tape recorded model presented as nurturant and powerful imitated the model's British accent to a greater extent than did children who heard the some model presented as helpless. The effect of preceding social isolation interacted with the sex of the child and/or that of the model.

23. Hartup, W. W.; Coates, B. Imitation of a Peer as a Function of Reinforcement from the Peer Group and Rewardingness of the Model. Child Development, v38, pp1003-1016, Dec 1967.

This study is based on the hypothesis that the effect of exposure to rewarding peer models, as compared to nonrewarding models, depends on the subject's general history of reinforcement from the peer group. 56 nursery school children were selected as Ss, and the behavior modeled consisted of a series of altruistic and "incidental" responses. It was found that Ss exposed to an altruistic peer model displayed significantly more altruism than Ss not exposed to a model. It was also discovered that Ss who had a history of frequent reinforcement from their peers imitated a rewarding model significantly more than a nonrewarding model; on the other hand, children who received infrequent reinforcement from peers imitated nonrewarding peers significantly more than rewarding peers. The results are discussed in relation to Mowrer's secondary reinforcement theory of imitative behavior.

24. Herbert, E. M.; Gelfand, D. M.; Hartmann, D. P. Imitation and Self-Esteem as Determinants of Self-Critical Behavior. Child Development, v40, pp421-430, Jun 1969.

This study investigated the influence of self-rated esteem and exposure to an adult model on children's learning of self-critical behavior. Half the Ss first observed a same-sex model playing a bowling game on which scores were experimentally controlled. Following low scores, the model gave up rewards and made self-critical comments. While Ss imitated the model's performance standards foregoing reinforcement, few of them imitated self-critical comments. Children not exposed to a model neither gave up tokens nor made any comments while playing the game. Scores from three self-rating esteem measures were not related to any dependent variable. Apparently, self-critical behavior can be learned through imitation of models, and self-denial of rewards is relatively independent of other types of self-evaluations.

25. Hicks, D. J. Girl's Attitudes Toward Modeled Behaviors and the Content of Imitative Private Play. Child Development, v42, pp139-147, 1971.

This study examined the relationship between female attitudes toward modeled behaviors and imitative performance. Girls viewed and rated a series of behavioral displays. Two months later, another viewing followed by a judged performance opportunity was conducted. The results indicate that girls' imitation of modeled behavior was markedly related to their attitudes toward it. Some evidence demonstrated that varied elements within a model's display can serve as the basis for such children's attitudes.

26. Jasperse, C. S.; v.Hekken, S. M. J. Effect of Nurturance of Imitative Behavior. Psychological Reports, v28, pp201-202, 1971.

A partial replication of Mussen and Parker (1965) tested the hypothesis that a model's nurturance enhances the imitation of task-relevant behavior, but not of task-irrelevant behavior. S either interacted for 15 minutes with a friendly model or played for 15 minutes by herself. In a subsequent individual session the model solved 3 Porteus Mazes during which she performed also four irrelevant acts. Thereafter, the 24 girls had to solve the same mazes. The results confirmed the hypothesis.

27. Jeffrey, D. B.; Hartmann, D. P.; Gelfand, D. M. A Comparison of the Effects of Contingent Reinforcement, Nurturance, and Nonreinforcement on Imitative Learning. Child Development, v43, pp1053-1059, 1972.

Forty-five second and third grade Ss made choices on a preference task immediately after observing the model's (M) choices. In Phase I of the task, M was present, while in Phase II M was absent. One-third of the Ss received contingent reinforcement for matching M's responses in Phase I, one-third experienced a pre-matching nurturant interaction with M, and the remaining Ss received neither. The results indicated (a) that in both phases imitation was strongest for contingently reinforced Ss; (b) that in Phase I, Ss exposed to the unresponsive model significantly mismatched (negative set) while Ss treated nurturantly matched at chance levels; and (c) that in Phase II the latter 2 groups matched at chance levels and did not differ from one another.

28. Kanfer, Frederick H.; And Others. Effects of Model Reinforcement, Expectation to Perform, and Task Performance on Model Observation. Journal of Personality and Social Psychology, v20 n2, pp214-217, Nov 1971.

Effects of instructions and model reinforcement on frequency of observing responses were examined in a factorial design with second-grade boys. Subjects would choose exposure to pictures of a model performing Columbia Mental Maturity Scale (CMMS) items or pictures of landscapes. Preferences were measured under several conditions: (a) the model received high (or low) reward for correct responding; (b) subjects were instructed that they would (or would not) perform the CMMS; (c) a second preference test preceded (or followed) performance of the CMMS. Expectation to perform resulted in more observations than no expectation, if tested prior to CMMS performance. After performance, instructions no longer had an effect. CMMS experience resulted in increase of later observations in all groups. Reward level for the model had no effect. All groups excelled CMMS scores of the no-observation controls.

29. LaFleur, N. K.; Johnson, R. G. Separate Effects of Social Modeling and Reinforcement in Counseling Adolescents. Journal of Counseling Psychology, v19 n4, pp292-295, 1972.

Examined the separate facilitative effects of social modeling and planned vicarious reinforcement. A total of 140 10th and 11th graders were given modeling with reinforcement, modeling without reinforcement, or active control treatments. Treatment procedures were arranged in booklets with models presented in cartoon form. The 3 dependent variables were (a) number of modeled behaviors performed, (b) knowledge acquisition of modeled behaviors, and (c) level of interest in modeled behaviors. Multivariate analysis of variance indicates no difference due to the presence of planned vicarious reinforcement. Experimental Ss knew more of the modeled behaviors, performed more of the modeled behaviors and indicated a higher level of interest in the modeled behaviors than did active controls.

30. Leifer, A. D.; Collins, A.; Gross, B. M.; Taylor, P. H.; Andrews, L.; Blackmer, E. R. Developmental Aspects of Variables Relevant to Observational Learning. Child Development, v42, pp1509-1516, 1971.

This study investigated 4 hypotheses relevant to developmental changes in observational learning. The first and second were that the ability to reconstruct a modeled sequence of behavior and the understanding of the motivations and feelings of the models would increase with age. The third and fourth were that there would be greater understanding if the motivations and feelings of a same-sex rather than an opposite sex model and that this differential understanding would increase with age. Ss were 4,7, and 10 years of age. They were shown a 20 minute entertainment film and then asked to sequence photographs from the film and to explain the motivations and feelings of various characters. Data supported the first and second hypotheses, but not the third and fourth. The relevance of cognitive and developmental variables to observational learning and imitation is discussed.

31. Leyens, J. P. The Role of a Positive Model, A frustrating Situation and Aggressive Context on Imitation. European Journal of Social Psychology, v2 n1, p577, 1972.

Thirty-two groups of naive Ss and one accomplice participated in a 2x2x2 experiment designed to test conditions facilitating imitation of a competent model played by the accomplice. It was hypothesized that the psychological distance between the competent model and the Ss would be lessened so that imitation would increase if the model was friendly rather than hostile, if the situation was nonfrustrating rather than frustrating, and if aggression was permitted rather than forbidden. Imitation was measured by the Ss reproduction of the model's 2 mannerisms, and was found to be significantly influenced in the predicted way by the 3 variables. However, the freedom to aggress did not lessen psychological distance. Alternative explanations are provided for these results.

32. Liebert, Robert M.; Baron, Robert A. Some Immediate Effects of Televised Violence on Children's Behavior. Developmental Psychology, v6 n3, pp469-475, May 1972.

The hypothesis that exposure to televised violence would increase the willingness of children to hurt another child was investigated. Boys and girls of two age groups (5-6 and 8-9 years) first viewed excerpts from actual television programs depicting either aggressive or nonaggressive scenes, and were then provided with an opportunity to aggress against a peer. All subjects were subsequently placed in a free play situation and the frequency of their aggressive responses observed. Results indicated that children exposed to the aggressive program engaged in longer attacks against an ostensible child victim than subjects exposed to the nonaggressive program. The aggressive program also elicited a higher level of aggressive play than the nonaggressive one, particularly among the younger boys.

33. Liebert, Robert M.; And Others. Effects of Vicarious Consequences and Race of Model Upon Imitative Performance by Black Children. Developmental Psychology, v6 n3, pp453-456, May 1972.

The effects of both vicarious reward and vicarious punishment upon young girls' imitation of the commodity preferences of a female adult model were examined. Consistent with the hypothesis that observers use vicarious consequences to infer what their own outcomes are likely to be, Ss exposed to vicarious reward showed more spontaneous imitation than those who had seen the model perform without consequences, whereas Ss exposed to vicarious punishment showed less imitation than the controls in this situation. In contrast, the previously divergent experimental groups performed equally well when explicitly asked to reproduce the model's responses. Although

the control group had also seen the model perform, they were to reproduce fewer of her responses than the experimental groups on this second test. These results are discussed in terms of the informational analysis on which the study was based.

34. Liebert, R. M.; Fernandez, L. E. Imitation as a Function of Vicarious and Direct Reward. Developmental Psychology, v2 n2, pp230-232, 1970.

The effects of vicarious and direct reward on children's imitation of an adult model's preferences for a wide range of commodities were investigated. The presence or absence of the model during the tests of imitative performance and sex of the Ss were also examined in the complex factorial design. Both vicarious and direct reward significantly enhanced matching responses and these factors were additive in their effects. None of the remaining variables significantly influenced imitative performance. The overall pattern of results is discussed in terms of the central role of incentive in imitation and the hypothesis that vicarious reward may serve primarily to enhance attention to the relevant modeling cues.

35. Liebert, R. M.; Fernandez, L. E. Vicarious Reward and Task Complexity as Determinants of Imitative Learning. Psychological Reports, v25, pp531-534, 1969.

The effects of task complexity and vicarious reward upon children's ability to learn a substantive educational task through modeling were investigated. After observing a model's performance, all Ss were offered direct reward for matching responses. Accuracy of imitative learning were inversely related to task complexity and facilitated by the presence of vicarious reward. However, as predicted, vicarious reward had a significant effect only for Ss in the high-complexity condition, tended to enhance the performance of Ss in the moderate-complexity condition, and had neglibible effects for Ss exposed to the low complexity task. These results are consistent with the hypothesis that vicarious and direct reward may operate additively, with the former serving primarily to enhance Ss' attention to the relevant modeling cues.

36. Long, Barbara H. The Self-Concept of Negro and White School Beginners. February 1968, 13p. ED 033 157

*Caucasians; *Children; Grade 1; Identification (Psychological); *Negroes; Preschool Children; Racial Differences; *Research; Rural Areas; Self Concept; *Self Esteem; Self Evaluation; Social Class; Social Differences; Southern States

This paper reports two substudies of racial differences on measures of self esteem, social interest or dependency, and identification with particular others. In one study 72 negro youngsters in a Headstart program were compared with 72 white children, and in another study a biracial sample of 96 children entering first grade was compared. The variable of social class was included in the second study. The measures used were derived from the self-social symbols method in which subjects either draw or paste on a sheet of paper a symbol to represent the self. Negro children were found to have lower self esteem in both samples. On the measure of social interest, the Headstart negro youngsters more often placed themselves outside the group, while in the first grade group a race by class interaction was found. The Headstart negro group identified more with mother and teacher, while in the first grade group, the differences were related to class, not race. Social class seems to be salient as a determinant of self esteem, social interest, and patterns of identification in young children of both races.

37. McMains, M. J.; Liebert, R. M. Influence of Discrepancies between Successively Modeled Self-Reward Criteria on the Adoption of a Self-Imposed Standard. Journal of Personality and Social Psychology, v8, pp166-171, 1968.

This study investigated the effects of discrepancies between self-reward criteria exhibited by 2 successively presented social agents and the criteria actually imposed by 1 of them upon children's adoption of a standard. Ss were trained to employ a stringent self-reward standard by an agent who adhered to this standard or deviated from it. Ss subsequently performed in the agent's absence. Thereafter, they observed a 2nd agent exhibit a self-reward pattern which was consistent with or discrepant from the standard they had been taught. Finally, Ss again performed alone. Their self-imposed criteria during the 1st test were in accord with previous findings. As predicted, Ss who observed 2 discrepant social agents were more self-lenient than those who observed uniformly high standards displayed. Ss who observed 1 consistent and 1 discrepant agent were intermediately self-lenient. This latter finding was related to order of presentation.

38. Masters, J. C.; Driscoll, S. A. Children's "Imitation" as a Function of the Presence or Absence of a Model and the Description of His Instrumental Behaviors. Child Development, v42, pp161-170, 1971.

In 2 experiments, children heard a story which described toys arranged in novel ways. A performance-description story included a model who actively arranged the toys. A location-description story described the toys as already arranged, and the model simply discovered them so. A location-description, no-model story described the toys as already arranged, but no model was mentioned. Children in the control conditions heard a story in

which toys were mentioned but not arranged in any novel fashion. Imitation was defined as the extent to which children subsequently arranged toys in a fashion similar to that described in the story. Children who had heard descriptions of the novel arrangement of toys "imitated" more than those in the control conditions, regardless of whether the model was present or absent or whether his instrumental behaviors were described.

39. May, Jack G., Jr.; Breyer, Norman L. The Effects of Selected Teacher and Pupil Characteristics on Social Learning. October 1970, 124p. ED 050 383

Behavioral Science Research; *Imitation; *Patterned Responses; *Preschool Children; Sex Differences; Social Influences; Socialization; *Social Reinforcement; Socioeconomic Status; *Stimulus Behavior; Verbal Learning

One of the focal points of this study is the investigation of the relationship between rates and types of imitative responding and responsiveness to social reinforcement (approval). Subjects were 96 children (5 to 6 years old) equally divided according to sex and race (Negro and white). Findings indicate that: (1) it seems tenable to assume that a relationship between verbal imitation and socioeconomic level does exist, although the nature of the relationship and the relevance of other factors is still unclear; (2) it might be fruitful to maintain the distinction of verbal and motor imitation as separate classes of imitative responses; (3) it appears that there is a greater difference in the rates of responsiveness between white males and white females than between Negro males and Negro females; and (4) patterns of responsiveness are related to whether the social influencing agent is physically or symbolically presented to the subject. The results were interpreted as indicating the complexity of the multidimensional phenomena called responsiveness to social stimuli.

40. Mischel, W.; Liebert, R. M. Effects of Discrepancies between Observed and Imposed Reward Criteria on Their Acquisition and Transmission. Journal of Personality and Social Psychology, v3 n1, pp45-53, 1966.

An adult (M) alternated turns with child Ss in a bowling game with experimentally controlled scores and abundantly available rewards. The treatments involved discrepancies between the performance criteria used by M to reward himself and those he imposed on S. Thereafter, Ss continued the game in M's absence, with free access to rewards. To examine "role-taking" effects, 1/2 the Ss in each treatment performed alone 1st and then demonstrated the game to another younger child (O), with the sequence reversed for the remainder. As anticipated, reward schedules in the adult's absence were more stringent when both M and S had initially adhered to a high criterion and least when S had been permitted to reward himself for low achievements.

Ss who were trained to reward themselves only on a stringent criterion and observed M reward himself similarly, maintained more stringent schedules than those who had been given the same stringent direct training for self-reward but by an M who rewarded himself leniently. The criteria Ss imposed on O tended to be identical with those they imposed on themselves and role taking had only indirect effects.

41. Mussen, P. H.; Parker, A. L. Mother Nurturance and Girls' Incidental Imitative Learning. Journal of Personality and Social Psychology, v2, pp94-97, Jul 1965.

This study, based on earlier research of Bandura and Huston (1961) was designated to test the hypothesis that girls with highly nurturant mothers will show greater tendencies to imitate their mothers' incidental task-irrelevant behavior than girls with relatively nonnurturant mothers. The Ss were 30 5-year-old girls to whom the Porteus Maze Test and the ITSC were administered. 3-4 weeks later, the girls took these tests again but, in the 2nd session, their mothers served as E-models. During this session, while her daughter watched, each mother solved the maze and, according to directions from the investigators, made certain irrelevant comments and certain marks on the maze tracings. Mother's nurturance was evaluated on the basis of her responses to an intensive interview conducted at her home. The results showed that the nurtured and nonnurtured daughters did not differ in the extent to which they imitated the mother's task-relevant, problem-solving responses. The hypothesis was confirmed, however, the nurtured group showing significantly more incidental imitative learning of the mother's behavior than the other group.

42. Parton, David A.; Geshuri, Yossef. Learning of Aggression as a Function of Presence of a Human Model, Response Intensity, and Target of the Response. Journal of Experimental Child Psychology, v11 n3, pp491-504, Jun 1971.

An aggressive modeling display in past research with children has had three distinct components: (a) the performing model, (b) the high-intensity response produced by the model, and (c) the human surrogate which served as a target for the response. The presence of these components was manipulated with video displays in order to examine the contribution of each component to the observational learning of surrogate aggression by 112 five-year-olds. The model served predominantly an information transmission function. However, the greatest amount of learning occurred, and imitative responses were most intense, when the displayed events were performed by a model in a vigorous fashion. Other results suggest that the high magnitude theory of aggression may be applicable for the observational learning of aggression and that the features of the surrogate may have been irrelevant in some experiments which have studied surrogate aggression in children.

43. Portuges, S. H.; Feshbach, N. D. The Influence of Sex and Socio-ethnic Factors upon Imitation of Teachers by Elementary School Children. Child Development, v43, pp981-989, 1972.

Forty-eight white advantaged and 48 black disadvantaged third and fourth grade boys and girls individually observed 2 four minute films, each depicting a teacher presenting a geography lesson. The teachers were distinctively dressed, used different incidental gestures and remarks, and employed contrasting reinforcement techniques, one positive and the other negative. After observing the films, the children assumed the role of teachers. A control group of 24 children who had not seen the films was also included. Significantly greater imitation of the teacher model's incidental behaviors was observed among advantaged children, among girls, and in response to the positive reinforcing teacher.

44. Ratliff, Anne R.; Ratliff, Richard G. Sesame Street: Magic or Malevolence? Young Children, v27 n4, pp199-204, Apr 1972.

45. Rosenblith, J. F. Learning by Imitation in Kindergarten Children. Child Development, v30, pp69-80, 1959.

The effectiveness of learning by imitation was studied in a context which permitted examination of a number of variables relevant to learning and identification theories. These were: (a) the effectiveness of having a leader or model as contrasted with experience in the absence of a model; (b) the effectiveness of the sex of the leader and of their leader's sex in relation to that of the child; (c) the effectiveness of the adult leader who gives attention to the child for the entire period preceding the imitation, as contrasted with that adult who pays attention to the child for half the time and withdraws attention for the remaining half.

In general, having a model was more effective than merely having additional trials. There were important differences between the effectiveness of the male leader and the female leader. The male leader was, in general, more effective. Boys showed more improvement. Girls seemed less sensitive to the experimental manipulations. There was a tendency for attention to be more effective than withdrawal of attention except in the case of boys with a male leader. The specific findings were examined in detail and their relation to current theories discussed. Analysis of variance on the male and female leader parts of the study combined showed effects of: (a) treatments, (b) sex of Ss, (c) initial or pretest level of Ss' performance on the mazes, and (d) interaction between the sex of Ss and the treatments.

46. Rutherford, E.; Mussen, P. Generosity in Nursery School Boys. Child Development, v39, pp755-765, 1968.

The study was designed to test two hypotheses: (1) boys' generosity would be related to perceptions of their fathers as warm and nurturant, and (2) generosity is part of a pattern of moral characteristics, including altruism, kindness, and cooperation. Groups of nursery school boys scoring high and low on a situational test of generosity were compared on a number of parent-perception and personality variables. Both hypotheses were supported. Compared with the other group, generous boys viewed their fathers as warmer and more sympathetic. These boys are also rated as kinder, less hostile, and less competitive. Generosity appears to be part of a pattern of moral behaviors acquired through the boys' identification with his father.

47. Stein, G. M.; Bryan, J. H. The Effect of a Television Model upon Rule Adoption Behavior of Children. Child Development, v43, pp268-273, 1972.

Third- and fourth-grade girls viewed a model who either verbally encouraged conformity or violation of rules governing self-reward. Half of the Ss within each of these groups witnessed a model who behaviorally conformed to the rules, the remaining half observed a model who violated the rules. The model's words and deeds interacted in affecting the Ss motor demonstrations, while the model's words affected the Ss verbal transmissions.

48. Stein, A. H.; Wright, J. C. Imitative Learning under Conditions of Nurturance and Nurturance Withdrawal. Child Development, v35, pp927-938, Sep 1964.

49. Thelen, Mark H. The Effect of Subject Race, Model Race, and Vicarious Praise on Vicarious Learning. Child Development, v42 n3, pp972-977, Sep 1971.

Kindergarten and first-grade Negro and white children observed a Negro or white model, who was either praised or not praised for performing specific aggressive behavior. White Ss imitated the Negro model more than the white model. The Ss who observed a white model recalled more of the model's motor behavior than Ss who observed a Negro model. Negro Ss who observed a model who was not praised recalled more of the model's motor behavior than Negro Ss who observed a praised model and more than white Ss who observed a model who was not praised.

50. Thelen, M. H.; Rennie, D. L.; Fryrear, J. L.; McGuire, D. Expectancy to Perform and Vicarious Reward: Their Effects upon Imitation. Child Development, v43, pp699-703, 1972.

Elementary school children observed a model (M) pressing certain sequences on a button-pressing task. Expectancy to perform, in conjunction with vicarious reward (VR) significantly increased spontaneous imitation. With no expectancy to perform, VR had no effect on spontaneous imitation. No differences were observed on a high-incentive measure of recall of the M's behavior.

51. Thelen, Mark H.; Soltz, William. The Effect of Vicarious Reinforcement on Imitation in Two Social-Racial Groups. Child Development, v40 n3, pp879-887, Sep 1969.

Two experiments were performed in which young boys observed a male model exhibit aggressive behavior. In the first experiment, Head Start boys who observed a model who received considerable verbal positive reinforcement imitated significantly less than subjects who observed a model who received no reinforcement. The second experiment replicated certain portions of the first experiment but with University Laboratory School boys. The results showed that subjects who observed the reinforced model imitated more, but not significantly so, than subjects who observed the nonreinforced model. The Laboratory School subjects in the positive vicarious reinforcement condition imitated significantly more than their counterparts from Head Start. These results were discussed in terms of past history of reinforcement for imitation which may be linked to racial or socioeconomic variables.

52. Wolf, T. M.; Cheyne, J. A. Persistence of Effects of Live Behavioral, Televised Behavioral, and Live Verbal Models on Resistance to Deviation. Child Development, v43, pp1429-1436, 1972.

Boys were exposed to a live behavioral, a televised behavioral, or a live verbal peer model who conformed to or deviated from a prohibition rule. The rule was imposed by an adult experimenter who instructed the subjects not to play with 1 of 2 toys. Subjects were then given immediate and 1 month follow-up resistance to deviation tests with the toys. Play behavior with the forbidden toy was inhibited and disinhibited following exposure to conforming and deviant models, respectively, relative to a no-model control condition. The magnitude of this effect depended upon the mode of presentation of the model. Live behavioral and televised behavioral models were the most effective, and live verbal models were the least effective. Moreover, the effects of the deviant models were more stable over time than the effects of the conforming models.

53. Yarrow, M. R.; Scott, P. M. Imitation of Nurturant and Nonnurturant Models. Journal of Personality and Social Psychology, v23 n2, pp259-270, 1972.

Investigated influences of the model-child relationship on the child's imitation in a laboratory setting. 118 preschool children were in small play groups under the supervision of either a nurturant or a nonnurturant caretaker. Two female adults carried out both roles with different groups. In these contrasting contests, the models performed standard responses incidentally during group play; other responses were performed on a play task, with Ss' attention directed to the model. Model nurturance and nonnurturance (a) had no effect on gross frequency of imitation; (b) had an influence on the content of imitated acts (nurturance was emphasized under nurturant models; nonnurturance, under nonnurturant models); and (c) were related to frequency of delayed and generalized imitation Both nurturance and nonnurturance were significantly greater with nurturant models.

54. Zimmerman, B. J.; Bell, J. A. Observer Verbalization and Abstraction in Vicarious Rule Learning, Generalization, and Retention. Developmental Psychology, v7 n3, pp227-231, 1972.

The effects of observer verbalization on the vicarious learning of an abstract or an associative conceptual rule was studied with fifth graders. Children who passively observed a model perform evinced significantly more acquisition of either rule studied than subjects who actively described the model's behavior or were engaged in irrelevant counting during observational learning. The latter two groups displayed statistically indistinguishable levels of rule acquisition. Children who were exposed to the abstract rule demonstrated significantly more generalization and retention than did subjects who learned the associative rule. Theoretical implications of these findings were discussed in terms of an interference hypothesis.

MODELING OF AGGRESSIVE RESPONSES

Section Two

MODELING OF AGGRESSIVE RESPONSES

The outcomes of learning in young children are usually positive. One exception may be the learning of aggressive responses. Aggressiveness is a culturally-specific trait instilled in members of the various cultures in which it is valued, or at least tolerated. Aggression is not to be construed as a totally negative trait, for our society rewards aggressive behavior in many ways at the same time that aggression per se is regarded as "bad". This ambivalence toward aggression is reflected in attitudes towards children's behavior. During childhood aggression is discouraged; attitudes toward it are highly restrictive. Yet aggressiveness is much rewarded in adult society: the ambitious and aggressive male is most likely to be successful in a competitive, free enterprise system.

Aggression is learned in three basic ways: (1) as an outlet to a frustrating experience or situation; (2) through the imitation or modeling of aggressive behavior; and (3) through the reinforcement of aggressive behavior provided in the permissiveness of adults toward certain aggressive acts by children.

Modeling seems to underlie or be an integral part of both other "types" of learning. Response to a frustrating situation may be learned initially through seeing someone react aggressively in a frustrating situation, although later the situation itself may be a direct stimulus for aggression. Permissiveness allowing aggressive action to occur without being negatively reinforced, is in fact condoning an individual's right to be aggressive.

Since the imitation of aggressive behavior appears to be crucial in the development of aggression responses, let us examine the types of behavior models available to children.

Three broad categories of models can be defined: 1) mass media (e.g., television, films, movies); 2) peers and adults; and 3) nonhuman models, particularly the Bobo dolls and other materials used in experimental-laboratory type investigations of aggression.

Mass media as a model. Much has been written about the effects of television on children. Most research indicates that aggressive actions are among the many things children learn from watching television. Liebert (1971), in a review of several studies on television and social learning, concluded that under certain circumstances exposure to televised aggression can lead children to accept the televised seuqnce as a partial guide for their own actions. In addition, correlational studies using a variety of techniques have shown a relationship between watching aggression on television and performing aggression. Experimental studies generally support the hypothesis that there may be a causal link between exposure to television violence and an observer's subsequent aggressive behavior. In other words, watching an aggressive episode appears to precede later aggressive behavior. Leifer (1971) attributed some of the learning of aggressive responses to the short attention span of young children. For instance, a violent act may be committed near the beginning of a program which is punished toward the end of the program but the child may no longer be watching. If the aggressive act is outstanding, and the punishment distant in time, the child may not see that the aggression has been punished, but conclude that aggression is an appropriate type of action.

If television thus provides a model for young children are certain types of models more effective? In a study comparing a cartoon model to

a televised live model, Stone and Hapkiewicz (1972) found that the live model produced more imitated aggression among elementary school children than did the cartoon model. Even programs designed for children may use too much aggression. For example, Sesame Street, in addition to teaching children letters, numbers, and some reading skills, may also provide a model for aggression. Ratliff and Ratliff (1972) suggest that Sesame Street may be exposing children to unnecessary aggression, both overt and implied. Some of the puppet skits appear to actually reward aggression, or at least they do not punish aggressive behavior.

Violence and aggression are also present in movies and films, but children are not exposed to movies as much as to television. Parents may also monitor their children's movie-going more carefully than they do their television-watching. Since the majority of American homes have television, televised aggression can have an important effect on children's social development. Senate hearings on the subject have been extensive (e.g., Abbott, 1972; Burch, 1972; Duval, 1972; Rule, 1972; Steinfeld, 1972; and Wasilewski, 1972). Recommendations include the curtailment of aggressive programs during children's viewing times, and more programs for children designed to "open their eyes and expand their minds" (Burch, 1972).

Peers and adults as models of aggression. Children learn by watching others and later trying the behavior themselves. A child observing an adult reacting aggressively to a frustrating situation will learn both the kind of reaction to a particular situation (frustration) and the fact that aggression is an acceptable kind of reaction. The greater the similarity between the model and the observer, the more likely the behavior is to be copied.

Nonhuman models of aggression. Much laboratory-type research on aggression has used "Bobo" dolls as the object against which aggression is directed. Children seem quite willing to imitate aggression against the "Bobo" doll, and thus many studies conclude that aggressive behavior has been learned. However, a child may have fewer reservations about hitting a doll, than he would have about hitting a child, unless he saw that particular behavior modeled or rewarded. The results of those studies using "Bobo" dolls should therefore not be considered quite as negative as results of studies which provided models of aggression against other people or animals. In general, study results do indicate that aggression is very much a learned rather than an innate behavior and if we want children that are not aggressive, we should provide models who are not aggressive.

Modeling of Aggressive Responses

1. Abbott, William S. Statement before the Senate Subcommittee on Communications. March 1972, 7p. ED 060 670

   Aggression; Business Responsibility; *Children; *Commercial Television; *Programming (Broadcast); Social Behavior; Speeches; Standards; *Television Research; *Violence

The Surgeon General has stated that the time is here for action, and that the data is sufficient to justify actions. A clear and present danger of the effects of televised violence on children has been demonstrated to us all. The foundation to improve television is presently before the Federal Communications Commission (FCC) with a petition for rule-making to have the FCC add a section on violence and horror television (TV) programs curtailing such programs during typical children viewing hours. Despite the first amendment to the constitution, the FCC has the authority and the responsibility to regulate the amount of violence and horror portrayed on TV because of its duty to act in the public interest and protect public health. There is sufficient evidence now to support the finding that the portrayal of excessive violence on TV is inimical to the mental health of our children. Television has immense potential for reaching children, and the foundation will continue to encourage positive programming while fighting broadcasting that is harmful to children.

2. Bandura, A. Influences of Model's Reinforcement Contingencies on the Acquisition of Imitative Responses. Journal of Personality and Social Psychology, v1, pp589-595, 1965.

In order to test the hypothesis that reinforcements administered to a model influence the performance but not the acquisition of matching responses, groups of children observed an aggressive film-mediated model either rewarded, punished, or left without consequences. A postexposure test revealed that response consequences to the model had produced differential amounts of imitative behavior. Children in the model-punished condition performed significantly fewer matching responses than children in both the model-rewarded and the no-consequences groups. Children in all three treatment conditions were then offered attractive reinforcers contingent on their reproducting the model's aggressive responses. The introduction of positive incentives completely wiped out the previously observed performance differences, revealing an equivalent amount of learning among children in the model-rewarded, model-punished, and the no-consequences conditions.

3. Bandura, A.; Ross, D.; Ross, S. A. Imitation of Film-Mediated Aggressive Models. Journal of Abnormal and Social Psychology, v66, pp3-11, 1963.

4. Bandura, A.; Ross, D.; Ross, S. A. Transmission of Aggression through Imitation of Aggressive Models. Journal of Abnormal and Social Psychology, v63, pp575-582, 1961.

5. Baron, Robert A. Reducing the Influence of an Aggressive Model: The Restraining Effects of Discrepant Modeling Clues. Journal of Personality and Social Psychology, v20 n2, pp240-245, Nov 1971.

Sixth male undergraduates participated in an experiment designed to investigate the hypothesis that the strong aggression-eliciting influence of an aggressive model could be counteracted by the presence of a restrained, nonaggressive model. In order to investigate this suggestion, subjects in four experimental groups were provided with an opportunity to aggress against an anger instigator following, respectively, exposure to the behavior of an aggressive model, a nonaggressive model, first an aggressive and then a nonaggressive model, or first a nonaggressive and then an aggressive model. Subjects in a fifth (control) group attacked their tormenter in the absence of prior exposure to any social models. Results strongly support the main experimental hypothesis. In addition, it was found that the aggression-inhibiting influence of a nonaggressive model was enhanced when observers viewed his restrained behavior before, rather than after, witnessing the violent acts of a highly aggressive model. These findings are discussed in terms of their implications for the prevention and control of collective violence in naturalistic social settings.

6. Burch, Dean. Statement before the Senate Subcommittee on Communications. March 1972, 12p. ED 060 665

Aggression; Business Responsibility; *Children; Commercial Television; Federal Legislation; *Programming (Broadcast); Social Behavior; Socialization; Speeches; *Television; Television Research; *Violence

There is no longer a question of whether something should be done about the impact of televised violence on children; the questions before us are what should be done, and by whom. Thus, the Federal Communications Commission (FCC) is engaged in an intensive self-education effort to study the economics of the television industry, and the legal and constitutional implications of possible rule makings. Further, the FCC plans public panel discussions and oral argument before the commission which will address every facet of our broadcasting system, especially its capability for serving young viewers. The FCC believes that the response of the broadcasting

industry to the Surgeon General's report should be immediate, and should include the reduction of all gratuitous violence in children's programming and the creation of new and diversified programming designed to open the eyes and expand the minds of children. At least on paper, the television code of the National Association of Broadcasters makes many relevant points. To implement the need for new programming, cooperation and consultation among the networks, broadcasters, and advertisers will be required. Although the FCC cannot make fundamental programming judgments, we can help to create a climate for the responsible, cooperative effort that is clearly called for.

7. Cameron, Paul; Janky, Christine. The Effects of Viewing "Violent" TV upon Children's At-Home and In-School Behavior. 1971, 44p. ED 057 388

*Aggression; Behavior; *Behavior Change; *Children; Hostility; Television; Television Viewing; *Violence

A project is reported in which the in-home TV viewing of 254 kindergarteners was controlled for 3 weeks by a selected "diet" of "violent" or "pacific" programming. Eight teachers recorded all in-school instances of violent-aggressive-hostile behavior by each child over a 5 week period. Parental report of in-home changes and the in-school changes indicated that most children did not change as a function of TV "diet", while those that did tended to copy the behaviors to which they had been exposed. The lengthy discussion is divided into 3 parts: (1) an analysis of the concepts "hostile", "violent", and "aggressive"; (2) a comparison of the authors' methodology and results with typical laboratory efforts, many of which are viewed as irrelevant, incompetent, or immaterial; and (3) the relevance of the results to the social issue of TV violence.

8. Cameron, Samuel M.; And Others. The Effect of Exposure to an Aggressive Cartoon on Children's Play. April 1971, 10p. ED 055 297

*Aggression; *Behavior; Behavior Theories; Learning; Pictorial Stimuli; *Play; *Preschool Children; *Stimulus Behavior; Violence; Visual Stimuli

The authors discuss their replications of 2 prominent studies in the area of modeling aggressive behavior; those of Lovaas and Bandura. In the first, they predicted that, given the same socio-economic background, there would be no differences between black and white children in the amount of aggressive play subsequent to viewing an aggressive cartoon. No significant differences are shown between the experimental and control groups for either blacks or whites. The second study, in which 43 preschoolers were divided into 3 subject groups, varied the level of aggressive content by showing a different cartoon to each group. It was assumed that the children

exposed to the most aggression would emit the most aggressive responses in a subsequent free play period. Again, no significant differences were found. The authors discuss their inability to demonstrate a previously well-documented effect.

9. Chaffee, Steven H.; McLeod, Jack M. Adolescents, Parents, and Television Violence. 1971, 44p. ED 054 641

*Adolescents; *Aggression; Children; Family Influence; Parent Attitudes; Parent Child Relationship; *Television Research; Television Surveys; *Television Viewing; Viewing Time; *Violence

Three hypotheses could explain a positive correlation between violence viewing and social aggressiveness in adolescents: (1) heavy exposure to television (TV) violence somehow reinforces or induces aggressive tendencies; (2) an aggressive child is more likely to be attracted to violent TV programs; and (3) some third factors exist which could cause both violence viewing and aggressiveness. Data gathered for this study as well as other research in the area suggest that the first is preferable to the other hypotheses. Also, when third factors, defined for this study in terms of the family and parent-child interaction, were controlled, the correlations between violence viewing and aggressiveness persisted. Assuming that the first hypothesis is a parsimonious explanation for this correlation, are there "control mechanisms" which could modify the casual link postulated in the first two hypotheses? Of four possible controls proposed in this study, only parental control of aggression was found both to be a reasonable alternative and to reliably reduce the violence viewing and aggression correlation.

10. Christy, Pauline R.; And Others. Effects of Competition-Induced Frustration on Two Classes of Modeled Behavior. Developmental Psychology, v5 n1, pp104-111, Jul 1971.

The effects of exposure to a model and subsequent competition upon both aggression and high activity were studied for 135 first- and second-grade boys. In a 3x3 design, subject pairs witnessed either an aggressive or a nonaggressive, high active model, or engaged in social interaction with an adult. Each boy then experienced either success or failure in competitive games, or played noncompetitively. Observation of free-play behavior revealed that (a) competition facilitated the class of modeled behavior under both aggressive and high active conditions; (b) success and failure were equally effective in enhancing the class of modeled response; and (c) the relative ordering of the effects of success, failure, and no competition was consistent within the subjects' grade level, but differed across grades. Apparently, current vicarious experiences, whether aggressive or high active, play a major role in determining the nature of response to competition

induced frustration. Overall findings provide support for Bandura and Walters' social learning theory and fail to support Berkowitz's earlier modification of the frustration-aggression hypothesis.

11. Cohen, Stewart. Children's Observation and Integration of Aggressive Experiences. Developmental Psychology, v26 n2, p362, Mar 1972.

12. Comstock, George A., Ed.; Rubenstein, Eli A., Ed. Television and Social Behavior; Reports and Papers, Volume III. Television and Adolescent Aggressiveness. April 1972, 444p. ED 059 625

*Adolescents; *Aggression; Children; Commercial Television; *Correlation; Family Environment; Family Influence; Programming (Broadcast); Social Behavior; Socioeconomic Status; Television Research; *Television Viewing; Viewing Time; *Violence

The question which guided the studies in this third volume of technical reports to the Scientific Advisory Committee on Television and Social Behavior is whether aggressive social behavior by adolescents can be attributed in some degree to violent television programming. After an overview which sets the studies in a comparative context, the studies are reported. They include a follow-up longitudinal study by Lefkowitz, Eron, Walder, and Huesmann with two comments on cross-lagged correlation. Also included are a study dealing with family influences by Chaffee and McLeod, "Adolescent Television Use in the Family Context"; two studies by McLeod, Atkin, and Chaffee which are concerned with self-report and other-report measures of television use and aggression; and a study by Cominick and Greenberg, "Attitudes toward Violence: The Interaction of Television Exposure, Family Attitudes, and Social Class." Other studies reported include Friedman and Johnson, "Mass Media Use and Aggression: A Pilot Study"; Johnson, Friedman, and Gross, "Four Masculine Styles in Television Programming: A Study of the Viewing Preferences of Adolescent Males"; Robinson and Bachman, "Television Viewing Habits and Aggression"; and McIntyre and Teevan, "Television Violence and Deviant Behavior."

13. Dubanoski, Richard A.; Parton, David A. Imitative Aggression in Children as a Function of Observing a Human Model. Developmental Psychology, v4 n3, p489, May 1971.

Imitative aggression was studied in preschool children using video-taped human models or no models. Results indicated that children viewing the model were more likely to exhibit aggressive responses. The facilitative effects of observing an aggressive model that have been demonstrated by past research may have been due to the model (or the model's characteristics) enhancing the acquisition of aggressive imitative responses rather than serving as a cue to indicate that aggressive responses are permissible.

14. Duval, Merlin K. Statement before the Senate Commerce Committee Subcommittee on Communications. March 1972, 6p. ED 060 664

Aggression; Children; *Commercial Television; Programming (Broadcast); *Social Behavior; Speeches; Television; Television Research; *Violence

The impact of television (TV) on children has been examined many times, and concern over potential connections between viewed violence and antisocial behavior has grown. The National Commission on the Causes and Prevention of Violence concluded in 1969 that violence on television encourages real violence, especially among the children of poor, disorganized families. The report of the Scientific Advisory Committee to the Surgeon General concerning past studies and the five volumes of commissioned research on television and social behavior makes a major contribution to understanding the role of television in influencing the social behavior of children. The report and its underlying research make clear that there is evidence to support the hypothesis that the viewing of violence on television can lead to antisocial behavior. This is particularly disturbing because violence figures so prominently in television entertainment. While it is clearly beyond dispute that a reduction in the violent content of television is most desirable, it is not our place to suggest means for achieving this. However, we are carefully analyzing the report to identify additional follow-up study areas so that we can broaden our base of knowledge. (The author is the Ass't. Secretary for Health and Scientific Affairs of the Dept. of Health, Education, and Welfare.)

15. Endsley, Richard C.; Osborn, D. Keith. Children's Reactions to TV Violence: A Review of Research. Young Children, v26 n1, pp4-11, Oct 1970.

This article reviews several studies on the effects of televised aggression on children. It was noted that newer programs are being designed so that there is less aggression, particularly during times when children are likeley to be watching. Some of the negative influences of televised aggression include the reduction of the child's inhibitions toward aggression, and the modeling of aggressive responses particularly when aggression is rewarded.

16. Feshbach, Norma; Feshbach, Seymour. Children's Aggression. Young Children, v26 n6, pp364-377, Aug 1971.

17. Hanratty, Margaret A.; And Others. Effect of Frustration upon Imitation of Aggression. Journal of Personality and Social Psychology, v21 n1, pp30-34, Jan 1972.

Of 30 first grade boys, 10 were frustrated and allowed to attack their frustrator, 10 were frustrated and allowed to attack another person, and the remainder were not frustrated. Half of the subjects had previously been shown an aggressive modeling film. According to prediction, of the subjects who had seen the film those who were frustrated displayed more imitative aggression. Among frustrated subjects, there was no significant effect produced by the nature of the target. The results are discussed in terms of the influence of frustration on performance variables in observational learning.

18. Hicks, D. J. Imitation and Retention of Film-Mediated Aggressive Peer and Adult Models. Journal of Personality and Social Psychology, v2, pp97-100, 1965.

The relative effect of peer and adult models as transmitters of novel aggressive responses was investigated. Children viewed either male or female adult or male or female peer models presented on film and a test for imitative aggression was made. Six months after seeing the films the same children were reobserved in order to assess the long-term influence of the models. In addition, a test of retention was made after the six month interval. It was found that the male peer had the most immediate influence in shaping children's aggressive behaviors while the adult male had the most lasting effect. A significantly greater number of the models' behavior were retained after 6 months than were performed.

19. Kuhn, D. Z.; Madsen, C. H. Jr.; Becker, W. C. Effects of Exposure to an Aggressive Model and "Frustration" on Children's Aggressive Behavior. Child Development, v38, pp739-745, 1967.

The study examines the effects of exposure to an aggressive model and "frustration" on children's aggressive behavior. A significant modeling effect was found. The "frustration" operation, however, did not affect the amount of aggression. The hypothesis that aggressive responses would increase when "frustration" was added to aggressive modeling was not substantiated; there was, in fact, a trend (not significant) toward inhibition of aggressive behavior. A critical examination of the "frustration" operation suggested that it involved both the delay of a positive reinforcer and presentation of a conditioned punishing stimulus The need to specify more precisely the stimulus function involved in "frustration" was discussed. Correlations between experimental aggression and aggression-related parent variables were not significant. Some evidence was present for a dimension of parental "aggressiveness."

20. Liebert, Robert M. Television and Social Learning: Some Relationships between Viewing Violence and Behaving Aggressively (Overview). 1971, 42p. ED 064 855

*Aggression; *Children; Programming (Broadcast); *Social Behavior; Socialization; *Television; Television Viewing; *Violence

Observational learning requires exposure to modeling cues, acquisition of the ability to reproduce what is seen or heard, and acceptance of the model's behavior as a guide for one's own actions, as imitation, counter-imitation, disinhibition, or inhibition. In this overview paper, the author considers a large body of research, especially that commissioned by the television and social behavior program of the National Institute of Mental Health, and concludes that children are exposed to a great variety of aggressive models and do acquire and are able to reproduce aggressive behavior. Evidence on children's acceptance of aggressive behaviors is described as complex, subtle, and dependent on such factors as rewards to the model, whether the model is seen as fantasy or reality, the observer's home life, and the situations in which he finds himself. However, the author feels that the accumulated weight of the evidence from so many studies justifies the conclusion that at least under some circumstances, exposure to televised aggression can lead children to accept what they have seen as a partial guide for their own actions.

21. Liebert, Robert M.; Baron, Robert A. Effects of Symbolic Modeling on Children's Interpersonal Aggression. April 1971, 27p. ED 054 852

*Aggression; *Elementary School Students; Interpersonal Relationship; Sex Differences; *Television Viewing; *Violence

Does exposure to symbolically modeled aggression (aggression in cartoons, movies, stories and simulated television programs) increase children's willingness to engage in behavior which might actually harm another human being? This paper presents a summary of three recent experiments offering affirmative answers to the question. A fourth experiment provides evidence that at least under some circumstances, children's interpersonal aggression may be increased by witnessing symbolic aggressive models. Subjects were 136 boys and girls randomly assigned to an experimental or a control group. Individual children in each group watched a videotape of either a violent or a highly active sports sequence. Subjects were next escorted to an adjacent room and seated at a response box apparatus. By pressing either of two buttons, children communicated their intent to help or hurt another child. As in many earlier studies, subjects regularly exposed to symbolic aggressive models tended to respond more aggressively than control group subjects tested under identical circumstances. Further,

this pattern of results emerged-despite the brevity of the aggressive sequences and, in three of four experiments, such effects were found even in the absence of a strong prior instigation to aggression.

22. Liebert, Robert M.; Baron, Robert A. Short-Term Effects of Televised Aggression on Children's Behavior. September 1971, 15p. ED 054 626

*Aggression; *Children; *Literature Reviews; Research Methodology; Television; *Television Research; Television Viewing; Violence

Recently collected data appear to warrant advancing some tentative conclusions concerning the short-term effects of violence in television of children: (1) children are exposed to a substantial amount of violent content on television, and they can remember and learn from such exposure; (2) correlational studies have disclosed a regular association between aggressive television and a variety of measures of aggression; and (3) experimental studies preponderantly support the hypothesis that there is a directional, causal link between exposure to television violence and an observer's subsequent aggressive behavior. However, it is important to distinguish between the statement that observation of violence can have such effects and that it will have them for any particular child. It should also be pointed out that every relevant study has at least one methodological flaw on which it might be challenged.

23. Leifer, Aimee Dorr; Roberts, Donald F. Children's Responses to Television Violence. August 1971, 221p. ED 054 596

Age Differences; *Aggression; Behavior Rating Scales; Childhood Attitudes; *Children; Commercial Television; Mediation Theory; *Programming (Broadcast); *Television Viewing; *Violence

A paper-and-pencil measure of aggressive response was developed to study the effects on children of exposure to television-mediated violence. Using this measure, a series of experiments was conducted using actual television programs as stimulus material. The results of these studies suggest: (1) although the majority of children understand the motivation and consequences of aggressive acts as they are presented on television, subsequent aggression is more affected by the amount of violence per se in the program than by the way in which the violence is presented; (2) aggression presented as being performed with good motivations may lead to greater subsequent aggression on the part of the viewer than aggression presented as being performed with bad motivations; (3) justification manipulations are effectively transmitted to all viewers, but these manipulations fail to influence the viewer's later level of aggression; and

(4) temporal separation between event and consequence may make it difficult for young children to see the relationship between aggression and the motivation for and consequences of aggressive acts. A general conclusion from these studies is that children, as they grow up, understand more about the television programs they view, but this understanding doesn't influence their aggressive tendencies.

24. Linne, Olga. Reactions of Children to Violence on TV. July 1971, 60p. ED 054 632

*Aggression; *Children; *Television Research; Television Viewing; Viewing Time; *Violence

A study was devised to investigate the possible impact of fictional television violence on children with reference to short and long term effects. Thirty-four children ranging in age from five to six were selected from a sample of children who had seen a series of violent television programs and were divided into two groups according to high and low exposure to the series. The children were shown an additional segment of the program with their mothers either before or after the administration of a series of measures to evaluate comprehension, attitudes, and aggression. The mothers were administered questionnaires and attitude scales to provide information about children's viewing of television and the attitudes of the mother toward television viewing. Results indicated that there were no short term effects of aggression; however, a larger proportion of high-exposed children than low-exposed children displayed more aggressive behavior irrespective of whether they had seen the additional segment on the testing occasion. Subsequent analyses suggest that the manner in which television viewing is handled by the family could be regarded as an intervening variable; therefore, the difference in aggression between low and high exposure groups should not be attributed directly to the television programs.

25. Madsen, C. Jr. Nurturance and Modeling in Preschoolers. Child Development, v39, pp221-236, 1968.

20 pairs of preschoolers (mean age 56.3 months, N = 40) matched on the basis of age, sex, and socioeconomic variables were assigned to nurturant and nonnurturant summer nursery school classrooms. 6 weeks of interaction with male assistant teachers preceded measurement of imitative modeling. Aggression modeling following filmed presentations was related to familiarity of model and sex of child. Boys were high in aggressive imitative and girls exhibited more nonimitative aggression. Filmed presentations decreased the relative amount of time preschoolers spent playing with a model-devalued toy. However, nurturance, familiarity, or sex of child appeared irrelevant. Nurturance was essentially ineffectual under both conditions, and the results from both experimental tasks demonstrated the importance of prior social learning histories.

26. Martin, Marian F.; And Others. Effects of Adult and Peer Observers on Boys' and Girls' Responses to an Aggressive Model. Child Development, v42 n4, pp1271-1275, Oct 1971.

100 children 5-7 years old individually observed a model depicting a unique sequence of aggressive behavior. Subsequent ratings of the children's imitative and total aggressive responding during solitary free play or with an observed present indicated that (1) boys displayed more aggressive behavior than did girls in all observer conditions; (2) peer observers facilitated aggressive responding; (3) subjects' aggressive responding increased from beginning to end of the free play session when a permissive adult was present.

27. Murray, John P., Ed.; And Others. Television and Social Behavior; Reports and Papers, Volume II: Television and Social Learning. April 1972, 378p. ED 059 624

*Aggression; Children; Commercial Television; Identification (Psychological); Imitation; Learning; *Learning Theories; *Social Behavior; Socialization; Television Research; *Television Viewing; *Violence

Concentrating on television and social learning, this second volume in the series of technical reports to the Surgeon General's Scientific Advisory Committee on Television and Social Behavior consists of an overview and the reports of five investigations. The studies included are: Leifer and Roberts, "Children's Responses to Television Violence"; Liebert and Baron, "Short-Term Effects of Televised Aggression on Children's Aggressive Behavior"; Stein and Friedrich, "Television and Content and Young Children's Behavior"; Feshbach, "Reality and Fantasy in Filmed Violence"; and Stevenson, "Television and the Behavior of Preschool Children." The overview reviews the field, points out agreements and inconsistencies among the studies, and concludes that "at least under some circumstances, exposure to televised aggression can lead children to accept what they have seen as a partial guide for their own actions. As a result, the present entertainment offerings of the television medium may be contributing, in some measure, to the aggressive behavior of many normal children. Such an effect has now been shown in a wide variety of situations."

28. Ross, Lee B. The Effects of Viewed Aggression on the Group Play of Children. May 1972, 25p. ED 064 842

*Aggression; *Behavior; *Children; Group Behavior; *Groups; Play; Television; *Television Viewing; Violence

The present investigation extended the methodology to investigate the effects of viewed aggression on groups of two and four children. The present study employed a 2x2x3 factorial design, using as independent variables sex of the child, group size (two or four children), and cartoon condition (aggressive cartoon, nonaggressive cartoon, and no cartoon). Forty-eight boys and 48 girls of kindergarten age were randomly assigned to the experimental groups. A factor analysis of the dependent measures identified four factors, accounting for 85 percent of the total variance, each of which responded differently to the independent variables. The finding that (a) transgressive-aggressive was not affected by viewing aggressive cartoons, and (b) that normative-aggression loads on the same factor as normative-play, rejects the assumption that aggression is a single class of behavior and rejects the hypothesis that the effect of viewing aggressive models reduce inhibitions against aggression. The results are interpreted in terms of factors affecting levels of activity.

29. Rule, Elton H. Statement before the U. S. Senate Committee on Commerce Subcommittee on Communications. March 1972, 19p. ED 060 668

Aggression; Broadcast Industry; Business Responsibility; *Children; *Commercial Television; *Programming (Broadcast); Social Behavior; *Television Research; Violence

The report to the Surgeon General on television and social behavior appears to establish that televised violence, under certain circumstances, may increase to some degree aggressive behavior in children. This finding represents a substantial advance in our knowledge, and we at American Broadcasting Company (ABC) will manage our program planning accordingly. By this coming fall, ABC will have entirely eliminated from its weekend children's schedule cartoons which depend solely on "action" and are devoid of comedy. Greater emphasis will be placed on prosocial conflict resolution, prime time programs will be more carefully evaluated and balanced, and intensified efforts will be made toward sponsoring original research relating to the effects of televised violence. To underline ABC's concern for the nation's children, it might be helpful to review our accomplishments in the last three years. We have de-emphasized violence in children's programs and made a commitment to improve the quality of children's weekend television. We sponsored the first children's programming workshop, providing a forum for knowledgeable persons to discuss improvement of children's television. We intend to continue our efforts to provide children with exciting, stimulating, interesting, informative, and entertaining programs.

30. Savitsky, Jeffrey C.; And Others. Role of Frustration and Anger in the Imitation of Filmed Aggression against a Human Victim. Psychological Reports, v29 n3, pp807-810, Dec 1971.

31. Schroeer, Ruediger S.; Flapan, Dorothy. Assessing Aggressive and Friendly Behaviors in Young Children. Journal of Psychology, v77, pp193-202, Mar 1971.

32. Schuck, Solomon Z.; And Others. Sex Differences in Aggressive Behavior Subsequent to Listening to a Radio Broadcast of Violence. Psychological Reports, v28 n3, pp931-936, Jun 1971.

33. Steinfeld, Jesse L. Statement before the Subcommittee on Communications of the Senate Commerce Committee. March 1972, 9p. ED 060 663

Aggression; Children; *Commercial Television; Federal Government; Programming (Broadcast); *Social Behavior; Television Research; Violence

From a review of the Scientific Advisory Committee's report and the five volumes of research on television and social behavior, there is an overwhelming consensus that televised violence does have an adverse effect on certain members of our society, and that the broadcasters should be put on notice. While the method of selection and the final composition of the Scientific Advisory Committee might have favored the networks, it is significant that a unanimous report was filed. It is important to emphasize at this point that "no action" in this social area is a form of action; it is an acquiesence in the continuation of the present level of televised violence entering american homes. The Department of Health, Education, and Welfare stands ready to assist those concerned with television programming by providing scientific information and advice, and the Federal Communications Commission, members of the academic community, other legislators, and members of the broadcasting industry will have suggestions for reducing televised violence and including more programming designed to induce prosocial behavior. The committee's report, then, represents a step forward and should provide a stimulus to other social scientists to build on the solid foundation which has now been erected. (The author is the U. S. Surgeon General.)

34. Steuer, Faye B.; And Others. Televised Aggression and the Interpersonal Aggression of Preschool Children. Journal of Experimental Child Psychology, v11 n3, pp442-447, Jun 1971.

Two matched groups of five preschool children each were exposed to either aggressive or nonaggressive television programs for a total of approximately 110 minutes over a period of 11 days. Interpersonal aggressive behavior immediately following viewing was recorded and compared with the same type of behavior during a prior 10-day baseline period. Ss who viewed aggressive television programs showed significantly greater increases in interpersonal aggression from baseline to treatment than did Ss who viewed nonaggressive programs. Results extended the generality of the previous finding that children's noninterpersonal aggressive behavior increased subsequent to viewing filmed aggression.

35. Stone, Robert D.; Hapkiewicz, Walter G. The Effect of Realistic Versus Imaginary Aggressive Models on Children's Interpersonal Play. October 1972, 16p. ED 063 540

*Aggression; Audiovisual Aids; Research; Elementary Education; Elementary School Students; Film Study; *Hostility; Media Research; *Models; *Violence

It was the purpose of this study to assess the effects of films on children using a measure of interpersonal aggression. It was anticipated that modeling effects would depend simultaneously upon the degree of realism of the model's performance (on a reality-fantasy dimension) and the similarity between the observer's task and the model's behavior. Therefore, aggressive behavior depicted by a human model in a real-life setting might be predicted to have greater effects than cartoon sequences in which both the models and stimulus conditions are imaginary. The subjects were 180 lower elementary school children enrolled in two suburban middle-class schools. Since previous research had indicated that children were somewhat inhibited when they did not know each other, they were generally assigned to pairs within classrooms. The results of this investigation support the prediction that modeling effects depend upon both the degree of realism of the model's performance and the similarity between the observer's task and the model's behavior.

36. Television and Growing Up: The Impact of Televised Violence. Report to the Surgeon General United States Public Health Service. January 1972, 289p. ED 057 595

*Aggression; *Children; Environmental Influences; Programming (Broadcast); Television; *Television Research; Television Surveys; Television Viewing; Viewing Time; *Violence

A request by Senator John O. Pastore for an inquiry into the effect of televised crime and violence and anti-social behavior by individuals resulted in the formation of the Scientific Advisory Committee on Television and Social Behavior. The committee report consists of the conclusions reached by 12 behavioral scientists after a review of 40 original research reports and of previously available literature on the effects of televised violence on the tendency of children toward aggressive behavior. The committee considered two major sources of evidence on effects of viewing violence and aggression on TV: evidence from experimental studies, and evidence from surveys. The two sets of findings were found to converge in three respects: "a preliminary and tentative indication of a causal relation between viewing violence on TV and aggressive behavior; an indication that any such causal relation operates only on some children (who are predisposed to be aggressive); and an indication that it operates only in some environmental contexts." The committee also identified areas for future research.

37. Turner, Charles W.; Berkowitz, Leonard. Identification with Film Aggressor (Convert Role Taking) and Reactions to Film Violence. Journal of Personality and Social Psychology, v21 n2, pp256-264, Feb 1972.

Many conditions influence the likelihood that people will display open aggression after viewing film violence. The present experiment sought to determine whether implicit aggressive verbalizations would facilitate aggressive reactions to movie violence. In a 3x2 factorial design, one variation in these implicit verbalizations asked subjects, all made to be angry toward the experimenter's confederate, either to (a) imagine themselves as the movie character who wins the film fight, (b) imagine themselves as the judge who watches this fighter, or (c) were not given any imagine "self" instructions. For the other variation, half of the subjects were to press a button every time they saw the film aggressor hit his opponent. The deliberately provoked men identifying with the fight victor were more aggressive to the confederate than either those taking the role of the judge or the control subjects. Within the group identifying with the film aggressor, the more frequently the subjects punch the button (presumably thing "hit" each time), the greater was the number of shocks they later gave. Questionnaire measures suggested that the identification with the film aggressor had also engendered hostility toward the experiment and experimenter. The role of demand characteristics is examined.

38. Walters, R. H.; Willows, D. C. Imitative Behavior of Disturbed and Nondisturbed Children following Exposure to Aggressive and Nonaggressive Models. Child Development, v39, pp79-89, 1968.

Disturbed and nondisturbed boys were exposed to 1 of 2 video-recorded sequences depicting a female model who played with 4 sets of play materials. In 1 sequence the model played in an aggressive manner; in the other she played in a nonaggressive manner. A third group of nondisturbed boys saw a video recording of the toys with the model absent. The Ss then played with the toys depicted in the video recordings. Comparisons among the nondisturbed groups indicated that the model films were effective for evoking imitative behavior. Disturbed Ss imitated the nonaggressive model less than nondisturbed Ss, but the samples did not differ in respect to imitation of aggression.

39. Wasilewski, Vincent T. Statement before the Subcommittee on Communications, Committee on Commerce, United States Senate. March 1972, 6p. ED 060 669.

Aggression; Broadcast Industry; Business Responsibility; *Children; Commercial Television; *Programming (Broadcast); Standards; *Television Research; Violence

Even if the great majority of our children are unaffected by television violence, and even if only a small fraction are negatively affected, we of the National Association of Broadcasters (NAB) recognize the need to determine how the negative effects can be alleviated. We are all in agreement that the resolution of this serious problem is the responsibility of the broadcasting industry--the alternative is government regulation of television content. Therefore, through the NAB's code authority, a program monitoring effort supported by the networks and by 402 television stations, we are now examining in detail the working of all of our television code's programming standards. A premise of broadcast self-regulation is that violence should be reasonably restrained as to degree and featured in contexts which justify its validity. In addition, the Television Code Authority and review board has been asked to undertake a study of the report to the Surgeon General on television and social behavior and to develop recommendations to the industry as to how the results of the report may be implemented.

LEARNING SEX ROLES THROUGH MODELING AND IMITATION LEARNING

Section Three

LEARNING SEX ROLES THROUGH MODELING AND IMITATION LEARNING

Young children learn behavior appropriate to their sex through imitation of their parents and admonitions that "Little boys don't do things like that." Most of the research on sex-role learning is correlational or observational rather than experimental.

The effects of parental dominance on the adoption of sex-role preferences was investigated by Heatherington (1965). Parental dominance was found to facilitate imitation in both boys and girls. Maternal dominance interfered with the formation of masculine sex-role preferences for boys. Paternal dominance was related to increased father-daughter similarity.

Another study by Heatherington and Frankie (1967) investigated parental warmth as well as parental dominance. Both were found to be important in children's sex-role identification.

Preschool children are with female adults most of the time, and so boys must infer their sex-role appropriate behavior. Lynn and Cross (1970) suggested that this necessary inferential behavior may cause young preschool boys to be uneasy about their sex identity, and cause them to prefer to play with their fathers rather than their mothers. To test this hypothesis, Lynn and Cross (1970) placed children in various play situations and asked which parent they would like to have join them in their play activities. The criterion for parent preference was four or more choices of one parent. Results indicated that boys significantly

preferred the father to the mother, although girls did not show any preferences.

Much of the literature on sex-role learning is found in psychological rather than educational journals. Only a brief representative sample is included here.

1. Hetherington, E. M. A Developmental Study of the Effects of Sex of the Dominant Parent on Sex-Role Preference, Identification, and Imitation in Children. Journal of Personality and Social Psychology. 1965. 2:2:188-194.

This study investigated the effects of sex of the dominant parent on sex-role preferences, parent-child similarity, and the child's imitation of the parent in three age groups. Parental dominance was found to facilitate imitation in both boys and girls. Maternal dominance was related to disruption in the formation of masculine sex-role preferences in boys and low father-son similarity. Parental dominance had little effect on sex-role preferences in girls or in mother-daughter similarity, but paternal dominance was related to increased father-daughter similarity.

2. Hetherington, E. M.; and Frankie, G. Effects of Parental Dominance, Warmth, and Conflict on Imitation in Children. Journal of Personality and Social Psychology. 1967. 6:2:119-125.

This study investigated the effects of parental dominance, warmth, and conflict on imitation of parents by boys and girls. Parental warmth and dominance were found to be salient variable in identification; however, parental dominance was more important for imitation by boys while maternal warmth was more effective with girls. Support was found for identification with the aggressor under the conditions of a high-conflict home where both parents were low in warmth.

3. Knott, Paul D.; and Drost, Bruce A. Sex-Role Identification, Interpersonal Aggression, and Anger. Psychological Reports. August 1970. 27:1:154.

Adjustment (to Environment); *Aggression; Anxiety; *Behavioral Science Research; *Identification (Psychological); Individual Differences; Interpersonal Relationship; Personality Theories; *Sex (Characteristics); *Sex Differences

4. Lynn, David B.; and Cross, Amy R. Parent Preference of Preschool Children. 1970. 5p. ED 041 628

*Child Psychology; Identification (Psychological); *Parent Child Relationship; Parent Role; Personality Development; Personality Theories; Preschool Children; *Sex Differences

An experiment was conducted to test the theory that young boys prefer the companionship of their fathers in play activities to that of their mothers, while young girls have no particular preference. It was hypothesized that a boy has this preference because he has been cared for primarily by his mother, and his discovery of sex-identity leaves him particularly insecure in his shifting sex-role, thus producing a strong affinity for the most available masculinity model, his father. Girls develop no such preference because they have been primarily cared for by the same-sex parent, a less confusing and less traumatic situation. This theory was tested by placing

children in seven play situations and asking them which parent they would like to have join them in each of the activities. The subjects were 150 2-, 3-, and 4-year-olds (76 boys and 74 girls). The criterion for parent preference was four or more choices of one parent. Analysis of the data revealed that the boys significantly preferred the father to the mother. Girls showed no consistent parent preference for the total sample, but this was the result of significant preferences: for the father at age 2 and for the mother at age 4.

5. Sears, Robert R. Relation of Early Socialization Experiences to Self-Concepts and Gender Role in Middle Childhood. Child Development. June 1970. 41:2:267-289.

Academic Achievement; Family Relationship; Grade 6; Parent Child Relationship; *Psychological Characteristics; *Self Concept; *Socialization

High self-concepts significantly associated with (1) high reading and arithmetic achievement, (2) or self-concepts associated with feminity. Five self-concept scales and an M-F instrument were given to 84 girls and 75 boys, all sixth grade. Their mothers had been interviewed (Patterns of Child Rearing) 7 years earlier. For both sexes, high self-concepts were significantly associated with (1) high reading and arithmetic achievement, (2) small family size, (3) early ordinal position, and (4) high maternal and paternal warmth. For boys only, high self-concept was associated with (5) low father dominance in husband-wife relations. In both sexes, femininity was associated with poor self-concepts.

6. Stein, Aletha Huston. The Effects of Sex-Role Standards for Achievement and Sex-Role Preference on Three Determinants of Achievement Motivation. Developmental Psychology. March 1971. 4:2:219-231.

*Achievement; *Age Differences; Grade 6; Grade 9; *Identification (Psychological); *Motivation; *Sex Differences; Socioeconomic Status; Tables (Data)

The major hypothesis of the study was that children's sex-role standards for six achievement areas, mechanical, athletic, math, reading, artistic, and social skills, are related to their attainment values, expectancies, and standards of performance in these areas. Subjects were 235 sixth and ninth graders divided into two socioeconomic status (SES) groups. The major hypothesis was supported. Further, as predicted, ninth graders' attainment values were more influenced by sex typing than sixth graders, and expectancies and standards of lower SES subjects were more influenced by sex typing than those of higher SES subjects. There were no age or SES differences in sex-role standards, but individual differences in sex-role standards were correlated with motivation scores. Sex-role preferences were not related to the pattern of motivation scores.

7. Vairo, Philip D. Wanted: 20,000 Male First-Grade School Teachers. Education. February/March 1969. 89:2:222-224.

Child Development; *Educational Needs; *Elementary School Teachers; Grade 1; Identification (Psychological); *Males; Psychological Needs; Teacher Education; *Teacher Recruitment; *Teachers

LEARNING VALUES AND ATTITUDES THROUGH MODELING AND IMITATION LEARNING

Section Four

LEARNING VALUES AND ATTITUDES THROUGH MODELING AND IMITATION LEARNING

Cultural values and attitudes are transmitted informally to children. Much informal learning occurs as children watch adults' reactions to particular events. Young children appear to be influenced by what they see others doing, and the rewards that behavior receives. In experimental settings altruism is a value often used as the modeled behavior. Bryan, Redfield, and Mader (1971) studied second- and third-grade children who heard a model either exhort greed or charity, or verbalize about neutral material. Following exposure to the model, half of the children in each group received social reinforcements from the model for responses minimizing material rewards. The model who practiced and preached charity and rewarded self-denial responses elicited the greatest number of self-denial responses from the children.

Bryan and Walbek (1970) found that behavior practiced by a model was more important than preaching in determining whether a child would also behave generously.

First grade children who observed sharing behavior of a very generous adult model later shared more than those who had observed a very stingy model (Presbie & Coiteux, 1971). Similar results were obtained by Harris (1970) who found that observation of a model's altruism can strongly influence the occurrence, amount, and direction of altruistic behavior.

Results of most studies dealing with altruism, sharing, and generosity indicate the strong effects of observed behavior, particularly when compared

with preaching or exhortation. In some studies the modeled behavior was rewarded, although the observed act was usually more of a determining factor in eliciting the behavior than the reward.

Other kinds of attitudes have also been induced experimentally. Bandura, Grusec, and Menlove (1971) taught children who feared dogs to overcome this fear. Some of the children observed a model play with a dog; some observed the dog; some saw a model without a dog; and a fourth group simply played, exposed to neither dog nor model. The group that observed the dog and the model appeared to reduce avoidance behavior toward the dog.

Development of conscience, an important aspect of growing up, is also learned through imitation learning. Although no studies were found which attempted to develop conscience experimentally, correlates of conscience were studied. Parent identification was measured in seventh grade children in terms of admiration, desire to emulate, and perception of similarity. It was found that parental identification was related to various aspects of conscience development, including the recognition that moral principles rather than external sanctions form the basis of right and wrong.

The studies included in the bibliography are meant to be representative rather than exhaustive. The teaching of values and attitudes in schools is itself a moral issue which will not be discussed here. The studies selected point up the fact that values and attitudes can be instilled, or taught, by observing others.

1. Bandura, A.; Grusec, J.; Menlove, F. L. Vicarious Extinction of Avoidance Behavior. Journal of Personality and Social Psychology, v5 n1, pp16-23, 1967.

This experiment was designed to investigate the extinction of avoidance responses through observation of modeled approach behavior directed toward a feared stimulus without any adverse consequences accruing to the model. Children who displayed fearful and avoidant behavior toward dogs were assigned to one of the following treatment conditions: One group of children participated in a series of brief modeling sessions in which they observed, within a highly positive context, a fearless peer model exhibit progressively stronger approach responses toward a dog; a second group of Ss observed the same graduated modeling stimuli, but in a neutral context; a third group merely observed the dog in a positive context, with the model absent; while a fourth group of Ss participated in the positive activities without any exposure to either the dog or the modeled displays. The two groups of children who had observed the model interact nonanxiously with the dog displayed stable and generalized reduction in avoidance behavior and differed significantly in this respect from children in the dog-exposure and the positive context conditions. However, the positive context which was designed to induce anxiety-competing responses, did not enhance extinction effects produced through modeling.

2. Bandura, A.; McDonald, F. Influence of Social Reinforcement and the Behavior of Models in Shaping Children's Moral Judgments. Journal of Abnormal and Social Psychology, v67, pp274-281, Sep 1963.

3. Bandura, A.; Menlove, F. L. Factors Determining Vicarious Extinction of Avoidance Behavior through Symbolic Modeling. Journal of Personality and Social Psychology, v8, pp99-108, 1968.

The present study was primarily designed to test the hypothesis that magnitude of various extinction is partly governed by the diversity of aversive modeling stimuli which are neutralized, and by observers' susceptibility to emotional arousal. One group of children, who were markedly fearful of dogs, observed a graduated series of films in which a model displayed progressively more intimate interactions with a single dog. A second group of children was exposed to a similar set of graded films depicting a variety of models interaction nonanxiously with numerous dogs varying in size and fearsomeness, while a control group was shown movies containing no animals. Both the single-modeling and multiple-modeling treatments effected significant reductions in children's avoidance behavior, but only the multiple modeling treatment weakened their fears sufficiently to enable them to perform potentially threatening interaction with dogs. Emotional proneness and degree of vicarious extinction were found to be

unrelated in the single-model condition and negatively correlated for children who received the more powerful multiple-modeling treatment.

4. Bryan, James H. Model Affect and Children's Imitative Altruism. Child Development, v42 n6, pp2061-2065, Dec 1971.

36 first and second grade males witnessed an altruistic model express positive affect either immediately following a donation or somewhat later. Ss exposed to immediate-affect statements by the model donated more than Ss exposed to the delayed-reinforcement conditions.

5. Bryan, J. H.; Redfield, J.; Mader, S. Words and Deeds about Altruism and the Subsequent Reinforcement Power of the Model. Child Development, v42, pp1501-1508, 1971.

96 second- and third-grade children were exposed to 1 of 6 types of videotaped models. Children witnessed an adult female practice either charitable or selfish behavior. One-third of the Ss in each group heard the model exhort either charity or greed or verbalize normatively neutral material. Following this exposure, half the children within each group received social reinforcements from the model for responses minimizing material rewards, while the other half obtained no social rewards. An interaction of model's practices, preachings, and social reinforcements was found; the model who practiced and preached charity and rewarded self-denial responses elicited the greatest number of such responses from the children. The model who preached and practiced charity but did not reward, elicited the least number of the responses. Children's judgments of the model's niceness were determined by the model's preachings and practices, not by the rewards.

6. Bryan, James H.; Walbek, Nancy Hodges. Preaching and Practicing Generosity: Children's Actions and Reactions. Child Development, v41 n2, pp329-353, Jun 1970.

Four experiments were conducted to assess the common and independent variances associated with exhorations, behavioral example, and contradictions between the two upon children's reactions in helping situations. Experiment I indicated that the model's acts affected the child's donation behavior, but that M's exhorations did not. Experiment II partially replicated the modeling effect found in Experiment I, but demonstrated that both preachings and practices were important determinants of the judged attractiveness of the model. Preaching failed to affect donation behavior. Experiment III duplicated the results of Experiment I on the effects of M's actions and of Experiment II on the influences of preaching and practices upon M's attractiveness rating, and further demonstrated that Ss' cognitions concerning

charity, as indexed by messages left for other children, had but a slight correlation with their helping behavior. Experiment IV assessed interpersonal attraction ratings unconfounded with donation behavior and recall errors related to the treatment condition. As in Experiments II and III, children predictably failed to recall accurately conditions wherein the model acted inconsistently. Failure to find an interaction of words and deeds upon behavior and attraction of M is thus attributed to the difficult conceptual task confronting the child.

7. Geer, J. H.; Turtletaub, A. Fear Reduction Following Observation of a Model. Journal of Personality and Social Psychology, v6, pp327-331, 1967.

8. Grusec, J. E. Demand Characteristics of the Modeling Experiment: Altruism as a Function of Age and Aggression. Journal of Personality and Social Psychology, v22 n2, pp139-148, 1972.

The effects on subsequent imitation of observing a model perform a particular behavior or merely say that he thought it was the appropriate thing to do were compared with sharing (which involves self-sacrifice) and aggression (which may be pleasurable). Eleven-year-old boys and girls and 7-year-old girls shared under both performance and verbalization conditios. Seven-year-old boys shared in a performance but not in a verbalization condition, although they were equally aware of the model's behavior in the two conditions. Eight- and 9-year-old boys and girls tended to display more imitative aggression in a performance than a verbalization condition. Those in the latter condition, however, were more aggressive than children who did not observe any model. Performance-verbalization differences in boys appeared to be mediated by learning differences. This explanation could not account for the behavior of the girls, however, who learned performed and verbalized behaviors equally well. The implications of these findings for the role of the model in imitation studies are discussed.

9. Harris, Mary B. Models, Norms and Sharing. 1970, 15p. ED 046 512

Age Differences; Grade 3; Grade 5; Imitation; *Interpersonal Competence; *Interpersonal Relationship; *Norms; *Research Methodology; *Social Behavior

To investigate the effect of modeling on altruism, 156 third and fifth grade children were exposed to a model who either shared with them, gave to a charity, or refused to share. The test apparatus, identified as a game, consisted of a box with signal lights and a chute through which marbles were dispensed. Subjects and the model played the game twice. The first time the model won and disposed of prize marbles in one of three ways. The

second time the subject won and was free to dispose of or save prize marbles. The subjects' subsequent sharing with the model, sharing with Mental Health or a Toys for Tots Charity, or their refusal to share was observed through a one-way mirror in the test van. Subjects also responded to a questionnaire designed to assess the salience of a norm of altruism. Both specific and generalized imitation of altruism were found and salience of sharing appeared to be strongly related to actual sharing and weakly related to experimental conditions.

10. Harris, Mary B. Models, Norms and Sharing. Psychological Reports, v29 n1, pp147-153, Aug 1971.

11. Harris, M. B. Reciprocity and Generosity: Some Determinants of Sharing in Children. Child Development, v41, pp313-328, Jun 1970.

The present experiment was primarily designed to examine the alternative hypotheses of a social responsibility norm or a reciprocity norm as a basic determinant of altruistic behavior. Children were given the opportunity to share tokens with charity or a model after having previously been either the recipient or an observer of charitable behavior or exposed to no such altruism. The effect of praising the model's generosity was also studied. Although children who had not been the recipients of generosity shared no more than those who had merely observed sharing, those receiving chips from the model tended to share with her. Those observing her share with charity tended to donate to charity, and those observing no sharing tended not to share. Vicarious reinforcements, however, was not a significant contributory factor. The pattern of results, while disconfirming that reciprocity is a necessary determinant of generosity, demonstrates that observation of a model's altruism can strongly influence the occurrence, amount, and direction of altruistic behavior.

12. Hoffman, M. L. Identification and Conscience Development. Child Development, v42, pp1071-1082, 1971.

Parent identification was measured in seventh-grade children in terms of admiration, desire to emulate, and perception of similarity. Data on several moral attributes were obtained with structured and semi-projective items and ratings by parents, teachers and peers. Separate analyses were done for middle- and lower-class boys and girls with IQ controlled. Few significant relations were obtained, but all were positive: father identification related to internal moral judgment in middle and lower class boys, rule conformity in middle-class boys and girls, and moral values in middle-class boys; mother identification related to rule conformity in middle-class boys. Guilt, confession, and acceptance of blame did not relate to identification in any of the subsamples. It was tentatively concluded that identification may contribute to the recognition that moral principles and not external

sanctions form the basis of right and wrong, but not to the application of these principles to one's own behavior in the absence of authority.

13. Masters, J. C. Effects of Social Comparison upon the Imitation of Neutral and Altruistic Behaviors by Young Children. Child Development, v43, pp131-142, 1972.

In social comparison situations 4 year-old children received more, fewer, or the same number of rewards as an adult partner (M) who subsequently displayed various neutral behaviors and donated rewards to "poor children". Children who had received more rewards than M showed significantly less imitation of neutral behaviors than did children in a control group. The imitation of neutral behaviors and the tendency to donate exactly the amount given away by M were affected similarly. It is proposed that children showing reduced imitation of highly divergent behaviors rejected the model as a model. It is also proposed that future studies of the imitation of altruism separate imitated altruism (donating exactly as many rewards as a model) from true altruism (donating more rewards than the model.)

14. Meyer, T. P. Effects of Viewing Justified and Unjustified Real Film Violence on Aggressive Behavior. Journal of Personality and Social Psychology, v23 n1, pp21-29, 1972.

The purpose of this study was to test the effects of viewing justified and unjustified real film violence on aggressive behavior. The basic research paradigm developed by Berkowitz was used. Subjects were angered by an instigator (the experimenter's accomplice) by means of electrical shocks; the subjects saw a nonviolent film segment, a violent film segment, or no film; the subjects then were allowed to return shocks to the instigator. Measures of the subject's aggressive behavior included numbers of shocks returned and shock intensity. The results showed that angered college students who viewed justified real film violence returned significantly more shocks and more intense shocks than angered subjects viewing unjustified real or fictional film violence, a nonviolent film, or no film. The findings suggest that the effects of increased aggression demonstrated for angered viewers of justified fictional violence are also applicable to angered viewers of real film violence.

15. Prestie, R. J.; Coiteux, P. F. Learning to Be Generous or Stingy: Imitation of Sharing Behavior as a Function of Model Generosity and Vicarious Reinforcement. Child Development, v42, pp1033-1038, 1971.

First grade children who observed a very generous adult model sharing, later shared more than those who observed a very stingy model. The effects of vicarious reinforcement on the amount shared, delivered by either the

experimenter or the model alone, were also demonstrated.

16. Raymer, Elizabeth. Race and Sex Identification in Preschool Children. August 1969, 102p. ED 041 634.

*Disadvantaged Youth; *Identification (Psychological); Identification Tests; Measurement Instruments; Preschool Children; Psychological Characteristics; *Race; Role Perception; *Self Concept; *Sex (Characteristics); Social Discrimination

Identification is a learning process important to the development of self-concept and to the role behavior of an individual. This study investigated the degree of race and sex identification and preference in both black and white disadvantaged preschool children. The measurement instrument developed was a 96-item paired picture selection task consisting of 13 sub-series of items that examined race and sex identification, race and sex preference, race labeling, color labeling and preference, and the dominance of race or sex criteria in subjects' response patterns. The sample was comprised of 168 4-year-old black and white children from Head Start and Day Care Centers. The data revealed that: (1) white children identified with their own sex more than did black children, (2) white children and black children both identified with and preferred the white race, (3) black examiners didn't increase the black children's preference for the black race, (4) boys preferred their own sex less than did girls, with no difference between the races, (5) sex was the dominant selection criterion for all groups, (6) no relationship appeared between preference for the white race and expressed preference for color, and (7) half the subjects pointed to the same picture whether it was labeled "good" or "bad."

17. Rosenhan, D.; White, G. M. Observation and Rehearsal as Determinants of Prosocial Behavior. Journal of Personality and Social Psychology, v5 n4, pp424-431, 1967.

In a study of altruistic behavior, fourth and fifth grade Ss played a bowling game, once in the presence of an adult model and once in his absence. Each time the model won gift certificates, he donated 1/2 of them to a charity. No control Ss, who did not observe a model, contributed to the charity while playing alone. Among Ss who observed the model, it was primarily those Ss who contributed in the model's presence who also contributed in his absence suggesting that rehearsal as well as observation were necessary for the elicitation of this behavior. The valence (positive or negative) and occurrence of a prior relationship with the model had peculiar and perhaps indeterminate effects on the elication of altruistic behavior.

18. Staub, E. A Child in Distress: The Influence of Nurturance and Modeling on Children's Attempts to Help. Developmental Psychology, v5 n1, pp124-132, 1971.

Kindergarten children interacted with an adult who was either warm and friendly (nurturance) or neutral and task oriented (no nurturance). The adult then went into an adjoining room, either to help a child there in response to mild distress cues (modeling) or to check on a child there (no modeling). Subsequently, all subjects heard sounds of severe distress from the adjoining room while they were alone. Modeling significantly increased attempts to help the distressed child. Nurturance also significantly increased helping, demonstrating that it can have an independent effect on behavior, rather than just modifying the influence of modeling. Interaction with a warm, friendly adult may have decreased fear of disapproval by children for possibly inappropriate behavior. Helping behavior was negatively related to family size. Correlations between teachers' ratings of children and their helping behavior were different for boys and girls.

19. Stein, A. H. Imitation of Resistance to Temptation. Child Development, v38, pp157-169, 1967.

The study tested the prediction that children in a tempting situation would imitate a model whether he exhibited yielding or resisting behavior. It was further predicted that subjects who observed a model who resisted while engaging in a prosocial alternative activity would resist temptation more than those who observed a model who resisted while remaining idle. Subjects were fourth-grade boys in 2 schools; the model was an adult male. Subjects who observed a yielding model showed significantly more yielding, but Ss who observed a resisting model--whether or not he engaged in a prosocial activity--showed no more resistance than the no model control. The Ss' responses on a Moral Behavior Questionnaire were inconsistently correlated with resistance to temptation. Significant differences between the 2 schools were found on all measures.

20. White, William F.; Bashaw, W. L. High Self-Esteem and Identification with Adult Models among Economically Deprived Children. Perceptual and Motor Skills, v33 n2 pt2, pp1127-1130, Dec 1971.

ACQUISITION OF VARIOUS CONCEPTS AND SKILLS THROUGH MODELING AND IMITATION LEARNING

Section Five

ACQUISITION OF VARIOUS CONCEPTS AND SKILLS THROUGH MODELING AND IMITATION LEARNING

Educators recognize that teaching by example rather than by exhortation is a preferred mode of presentation. For this reason, many materials have been designed which provide examples of concepts as models. Often, watching a filmstrip or listening to a record will provide a model superior to any verbal presentation. An example of a concept which is better taught with a model is the Piagetian concept of conservation. Cook and Murray (1973) report a study in which first grade nonconserving children watched conserving children respond to a conservation task. The observing children were tested on a conservation task two weeks after they had made their observations. The children had acquired the concept of conservation as indicated by their responses to the task, and their reasons to support their judgments. Work done by Rosenthal and Zimmerman (1972) support these results.

Other concepts or skills sometimes taught through imitation learning include information processing strategies, concept identification, discrimination learning, and question-asking behavior. It appears that many skills and concepts could probably be taught through imitation learning, although little formal research has been done. It is highly likely that complex skills such as problem-solving skills could be taught through imitation learning if at some point the students had an opportunity to practice those skills.

Denney (1972) attempted to teach hypothesis-seeking and constraint-

seeking behavior in 6-, 8- and 10-year-old boys. Although his efforts were not totally successful, he suggested that children at different ages are differentially responsive to various conceptual-strategy models.

Concept learning is facilitated by a model who verbalizes choices, as opposed to a model who does not verbalize choices or to no model at all (Ryan and Kobasigawa, 1971). Concept generalization is also aided by modeling, particularly when the model's actions are verbalized. (Zimmerman and Rosenthal, 1972).

Discrimination learning does not appear to be facilitated by the observation of the correct response. (e.g., Vance and Siegel, 1971). However, only one study was located on this aspect of observational learning.

Question-asking behavior can be taught through observational learning, particularly when the behavior is rewarded (e.g., Rosenthal and Zimmerman, 1970; Zimmerman and Pike, 1972). Related to question-asking behavior is information processing behavior. Denney, Denney and Ziobrowski (1973) found girls superior in the acquisition of this skill, particularly when the model removed incorrect alternatives as she performed the task. Lamal (1971) used a game of twenty questions and a model to teach information processing. Results indicated that those children (grade 3,5,7) who observed a model took a much shorter time to find the solution to the problem.

Acquisition of Various Concepts and Skills through Modeling and Imitation Learning

1. Cook, H.; Murray, F. B. The Acquisition of Conservation through the Observation of Conserving Models. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, La., Feb 1973.

From observation of conserving children as they responded to 6 conservation problems, nonconserving 1st grade children acquired the ability to give conservation judgments and reasons on these same problems. The ability transferred to 12 different problems on the same and different concepts, and was retained and present after two weeks. The performance of conservers who observed nonconservers' performance was unaffected.

2. Denney, D. R. Modeling and Eliciting Effects upon Conceptual Strategies. Child Development, v43, pp810-823, 1972.

The present study attempts to extend the principles of observational learning to the acquisition and performance of hypothesis-seeking and constraint-seeking conceptual strategies in children. Boys aged 6, 8, and 10 years were shown video-taped models who depicted hypothesis seeking, constraint-seeking with constraints based on perceptual attributes, and constraint seeking with constraints based on functional attributes. The results lend support to the notion that children at different ages are differentially responsive to various conceptual-strategy models. In general, while the present study discovered eliciting effects, it failed to show that true observational learning effects can result from observation of a conceptual-strategy model.

3. Denney, D. R. Modeling Effects upon Conceptual Style and Cognitive Tempo. Child Development, v43, pp105-119, 1972.

Analytic and relational second-grade males observed a female adult model performing a conceptual task. The modeling conditions differed along two cognitive style dimensions: analytic versus relational conceptual style, and reflective versus impulsive cognitive tempo. The performance of the Ss demonstrated that the conceptual style and cognitive tempo of the model changed the styles and tempos of the Ss and that these effects generalized to independent tasks. Finally, asymmetry was noted in the effects of the conceptual style models upon Ss conceptual styles; relational models produced more absolute change on an immediate posttest, while analytic models produced more permanent change as revealed through a delayed follow-up test.

4. Denney, D. R.; Denney, N. W.; Ziobrowski, M. J. Alterations in the Information-Processing Strategies of Young Children following Observation of Adult Models. Developmental Psychology, v8 n2, pp202-208, 1973.

In a previous study, it was found that the use of constraint-seeking conceptual strategies could not be augmented among 6 year-old children exposed to exemplary models. In the present study, 6 year-olds were shown verbalizing models who, in addition to asking constraint-seeking questions, illustrated partitioning of the stimulus array and the formulation of constraint-seeking questions based on such partitions. Children were exposed to three training conditions: a verbalizing model alone (modeling), a verbalizing model who removed eliminated alternatives from the stimulus array following each question (elimination), and a verbalizing model who illustrated his strategy on a series of increasingly larger stimulus arrays (graduated array). Children exposed to the training conditions showed more constraint-seeking questions than did untreated controls. There were also significant differences among the training conditions, with the elimination condition providing more effective than either the modeling or graduated-array conditions. Girls were found to be especially responsive to the elimination condition in which the advantages of the constraint-seeking strategy for efficiently eliminating large numbers of incorrect alternatives were emphasized. Boys were more responsive than girls to the graduated-array condition, which depicted most clearly the model's partitioning of the stimulus array. Only the girls showed significant improvement in information-processing efficiency in addition to increases in constraint-seeking. These sex differences were discussed as possibly reflecting basic developmental differences in information-processing skills between boys and girls at the 6 year-old level.

5. Lamal, P. A. Imitation Learning of Information Processing. Journal of Experimental Child Psychology, v12, pp223-227, 1971.

Modified twenty questions problems were solved by 72 Ss in a study of the influence of an adult model on the information-processing strategy used by children of various grade levels. The independent variables were (a) information-processing of model (hypothesis-scanning constraint-seeking, or control), (b) sex of model, (c) school grade (3,5,7), and (d) sex of S. Major results were: (a) fewer questions to solution with the constraint-seeking model than the hypothesis testing model or control, which did not differ, (b) both a smaller percentage of constraint questions and fewer items per question with the hypothesis scanning model, (c) shorter time to solution for Ss who had observed a model than for control Ss, (d) a lower percentage of contraints for third graders, as well as fewer items per question for third and fifth graders, (e) shorter time to solution for fifth graders than third graders, with no difference between fifth and seventh graders and seventh and third graders, and (f) no effects for model sex or S sex.

6. Rosenthal, Ted L.; Zimmerman, Barry J. Instructional Specificity and Outcome-Expectation in Observationally-Induced Question Formulation. November 1970, 17p. ED 047 789

Grade 3; Imitation; *Inquiry Training; *Pictorial Stimuli; *Questioning Techniques; *Stimulus Generalization; *Training Techniques; Visual Stimuli

Spontaneous and model-induced production of a valuational style of inquiry was studied in 128 third grade children. Provision of a favorable versus a neutral outcome-expectation, and sex of child failed to influence the results. All modeling groups displayed strong value-question increases over baseline which, without further tutelage, they generalized to a new set of stimulus pictures. Four instructional variations, implicit, explicit, pattern (calling notice to an underlying similarity among the model's questions), and mapping (exemplifying essential features of the model's paradign) proved to differ significantly in the postmodeling imitation phase but not in generalization. The conceptual and pedagogical relevance of the results were discussed.

7. Rosenthal, Ted L.; Zimmerman, Barry J. Modeling by Exemplification and Instruction in Training Conservation. Developmental Psychology, v6 n3, pp392-401, May 1972.

Observational learning by middle-class Anglo-Americans by economically disadvantaged Chicano first graders, and by 4 year-olds was found on multidimensional conservation tasks. Without further training, imitative conservation was generalized to new stimuli. Verbally praising the model's responses did not affect performance. A nonconserving model reduced initially conserving children's scores. A nonmodeling instructions procedure did not alter conservation. Providing a rule to explain stimulus equivalence improved responses when both judged equivalence and explanation were improved responses when both judged equivalence and explanation were required, but not when judged equivalence alone was required. Observing a model conserve without giving explanations increased correct judgments plus rule responses in imitation, indicative of inferential thinking elicited by modeling.

8. Ryan, D.; Kobasigawa, A. Effects of Exposure to Models on Concept Identification and Second Grade Children. Child Development, v42, pp951-955, 1971.

Kindergarten and grade-2 Ss performed a concept-identification task following 1 of 3 treatments: exposure to an "expert" model (M) who verbalized his choices (VM), exposure to a M who merely pointed to stimuli (SM), and no exposure (NM). Tasks for both M and S involved S's nonpreferred (relevant) and preferred (irrelevant) dimensions, although the values of the stimuli were different for both M and S. Results were: (a) the provision of a VM was more effective than a SM or NM for both age groups, and (b) grade-2 SM Ss made more errors than kindergarten SM Ss.

9. Vance, Billie J.; Siegel, Alexander W. The Relative Effectiveness of Observing Response vs. Predifferentiation Pretraining on Children's Discrimination Learning. Psychonomic Science, v4 n24, pp183-185, 1971. (also available as ED 058 968)

This study was designed to assess the relative effectiveness of four components of pretraining on a subsequent simultaneous discrimination and reversal: (1) making same-different judgments about the two stimuli; (2) making a specific observing response to the critical feature of the stimuli; (3) simple familiarization with the stimuli; and (4) developing a set to compare stimuli. Seventy-two first-grade children served as Ss. Two sets of stimuli were used: line drawings of cats and line drawings of children's faces. Although none of the pretraining conditions had a facilitating effect for Ss seeing the faces, there were significant facilitative effects for Ss seeing cats. Specifically, the three pretraining conditions involving same-different judgments facilitated both learning and reversal, whereas the effect of "observing response alone" pretraining had no such facilitative effect.

10. Zimmerman, B. J.; Pike, E. O. Effects of Modeling and Reinforcement on the Acquisition and Generalization of Question-Asking Behavior. Child Development, v43, pp892-907, 1972.

The question-asking behavior of disadvantaged Mexican-American second grade children was found readily modifiable using an adult model offering contingent praise. Lower levels of response were produced when only praise was presented. Both conditions numerically surpassed an untreated control group's question-asking levels. Casual relationships were established between the treatment variations and child question production through a multiple-base-line procedure which produced staggered increases and decreases when treatment was either instated or withdrawn, respectively. Some generalization of question-asking behavior was observed when a new teacher who did not model or praise was introduced. After training, individual posttesting revealed that only the children who observed the model and were praised for their questions produced significantly more questions than the control group to unfamiliar stimulus cards.

11. Zimmerman, B. J.; Rosenthal, T. L. Observation, Repetition, and Ethnic Background in Concept Attainment and Generalization. Child Development, v43, pp605-613, 1972.

Attaining and generalizing a new concept were studied in Mexican- and Anglo-American fifth graders. The designed factorially compared ethnicity x modeling or nonmodeling training x repetition or nonrepetition of a rule summary. All children received feedback on correct responses during a performance-phase trial. Both modeling and repetition improved performance. Prior-modeling groups reduced errors faster than nonmodeling groups, whose errors decreased in the last block of trials. Concept generalization was aided by modeling, and especially, by repetition which mainly determined later verbalization of the rule. Anglo- outperformed Mexican-American children, but the major results held for both ethnic groups.

Postscript

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SCIENCE & MATHEMATICS EDUCATION
Ohio State University
1460 West Lane Avenue
Columbus, Ohio 43221

SOCIAL STUDIES/SOCIAL SCIENCE EDUCATION
855 Broadway
Boulder, Colorado 80302

TEACHER EDUCATION
One Dupont Circle, Suite 616
Washington, D. C. 20036

TESTS, MEASUREMENT, & EVALUATION
Educational Testing Service
Rosedale Road
Princeton, New Jersey 08540

VOCATIONAL & TECHNICAL EDUCATION
Ohio State University
1900 Kenney Road
Columbus, Ohio 43212

*ERIC/ECE is responsible for research documents on the physiological, psychological, and cultural development of children from birth through age eight, with major focus on educational theory, research and practice related to the development of young children.